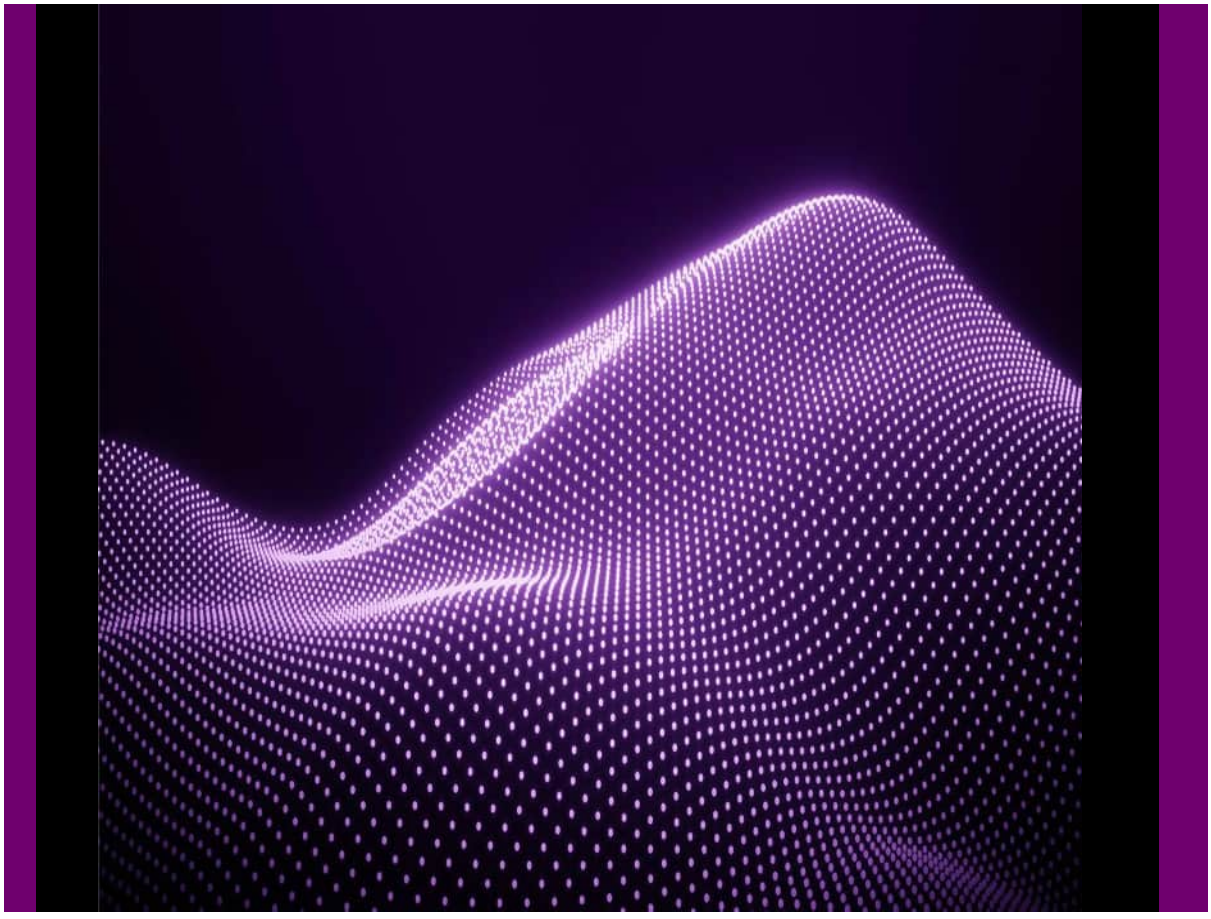
RAAF Base Wagga, PFAS Ongoing Monitoring Report (OMR), April 2024 to February 2025

Document no: IS419100-WAG-NP-RPT-03
Revision: 3

Department of Defence
PFAS 2021/22 - 194

RAAF Base Wagga, PMAP Delivery
21 October 2025



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Client name:	Department of Defence		
Project name:	RAAF Base Wagga, PMAP Delivery		
Client reference:	PFAS 2021/22 - 194	**Project no:**	IS419100
Document no:	IS419100-WAG-NP-RPT-03	**Project manager:**	GM
Revision:	3	**Prepared by:**	PSK
Date:	21 October 2025	**File name:**	RAAF Wagga PFAS OMR_Rev 3_Final
Document status:	Final		

Document history and status

Revision	Date	Description	Author	Reviewed	Approved
0	22/09/25	Draft	PSK	GM	DL
1	13/10/25	Revised Draft to address Defence & TA comments	GM	GM	DL
2	20/10/25	Revised Draft to address additional Defence & TA comments	GM	GM	DL
3	21/10/25	Final	GM	GM	DL

Jacobs Group (Australia) Pty Ltd

Level 7, 177 Pacific Highway
North Sydney, NSW 2060
PO Box 632
North Sydney, NSW 2059
Australia

T +61 2 9928 2100
F +61 2 9928 2444
www.jacobs.com

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Executive summary

Introduction

Jacobs Group (Australia) Pty Ltd (Jacobs) was engaged by the Department of Defence (Defence) to implement the Ongoing Monitoring Plan (OMP) for monitoring per- and poly-fluoroalkyl substances (PFAS) as part of the PFAS Management Action Plan (PMAP) Implementation at RAAF Base Wagga Wagga, New South Wales (the 'base' or the 'site). The OMP outlines the rationale and scope for the monitoring of the concentrations and extent of PFAS in groundwater, surface water and sewage originating from the base.

RAAF Base Wagga is located approximately 10 km east of the central business district of Wagga Wagga, NSW and has been affected by PFAS contamination from historical site activities. The deployment of aqueous film forming foam (AFFF) during firefighting and training exercises has contributed to the presence of PFAS in specific areas both within and surrounding the base.

The objectives of the OMP are to identify and evaluate:

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

The data collected under the OMP is required to assist risk management decisions by Defence and NSW State Government agencies to protect human health and the environment.

Monitoring Program

The OMP includes sampling and analysis of groundwater, surface water and sewage within the on-base Management Area and the off-base Monitoring Area. Stantec Australia Pty Ltd (Stantec, previously Cardno) completed a sampling event in April 2024, and Jacobs completed a sampling event in February 2025. Both sampling events were completed in general accordance with the sampling and analysis quality plans (SAQP).

This Ongoing Monitoring Report (OMR) provides interpretation of the data collected over two sampling events completed between April 2024 and February 2025.

Interpretive Assessment

Groundwater

The PFAS concentrations in groundwater were generally similar to those reported in previous monitoring periods, except for the following:

- Increasing trends in recent sampling were identified at six monitoring wells, located at the base boundary (MW300, and MW311) and down-gradient of the Gumly Gumly Wetland (MW248, MW253, MW254 and MW259). Most increasing trends identified were due to a previous elevated concentration that have since shown a reduction in more recent results; where concentrations are at or around the laboratory Limits of Reporting (LOR), or remain below assessment criteria. Two exceptions to this were observed as follows:
  - MW248 identified an increasing trend of PFHxS. The February 2025 result was a new maximum concentration at this location and exceeded both the human health (drinking water) and ecological

guidelines. The well targets the Cowra Formation and is located alongside Marshalls Creek; downstream of the confluence of the drain connecting Marshalls Creek and the Gumly Gumly Wetland, and the drain connecting Marshalls Creek to Lake Albert, where the Kooringal STP is located. The location of this well and the concentration in the Cowra formation support the proposition that Marshalls Creek is acting as a secondary source of PFAS contamination to groundwater.

- An increasing trend for PFOS was identified in MW253, which targets the Lower Lachlan Formation. MW253 is located adjacent to an open drain the discharges to the drain connecting Marshalls Creek and the Gumly Gumly Wetland. The PFOS concentration during the April 2024 event exceeded the drinking water guideline, but was detected below the guideline during the February 2025 event.

- Concentrations were above the new National Health and Medical Research Council (NHMRC) drinking water guideline values for both PFOS and PFHxS in 28 wells (across both the April 2024 and February 2025 events). The wells were located at the base boundary, in the Gumly Gumly Wetland and downgradient of the Gumly Gumly Wetland. In addition, concentrations in seven locations within the Gumly Gumly Wetland and downgradient of the Gumly Gumly Wetland also exceeded the ecological guideline values for PFOS.
- The highest PFOS concentrations were detected adjacent to Marshalls Creek (MW253, April 2024) within the Cowra Formation. The highest PFHxS concentration was detected within the Cowra Formation in a new well installed between Marshalls Creek and RWCC extraction bore (MW262, February 2025)
- There were no exceedances of the drinking water guidelines for PFOA and PFBS.
- PFAS concentrations in all drinking water supply bores were found to be below the laboratory LOR in both events.

Surface Water

Surface water results were consistent with previous data. A summary of the key findings during the monitoring period include:

- No increasing trends were identified within any of the PFAS concentrations of surface waters in the recent sampling events.
- Concentrations were above the new NHMRC drinking water guideline values for both PFHxS and PFOS in 11 surface water locations (across both the April 2024 and February 2025 events). The exceedances were observed at the base boundary, in Marshalls Creek and at the Forest Hill STP. In addition, 9 samples from base boundary and drainage line, Marshalls Creek and Forest Hill STP also exceeded the ecological guideline values for PFOS.
- There were no exceedances of PFOA and PFBS of the drinking water guidelines.
- There were no exceedances of recreational water guidelines for surface waters during the OMR monitoring period.
- Samples from the Murrumbidgee River had PFAS concentrations below the laboratory LOR during both sampling events.

Updates to the Conceptual Site Model

The conceptual site model (CSM) was reviewed based on the results from the two sampling events presented in this OMR, the findings of the PFAS mass flux investigation, the installation of additional monitoring wells in East Wagga and infrastructure works including the completion of remediation works at the base. Remediation of several key PFAS source areas on the base was completed in May 2025. This is expected to remove some of the key primary PFAS sources and / or remove some of the preferred migration pathways (replacement or repairs to sewer and stormwater pipes), however the performance monitoring of the remediation works is still

in progress. While it is expected that the remediation works will reduce the PFAS concentrations leaving the base, further monitoring will be required before the CSM is adjusted.

PFOS was detected for the first time in February 2026 in a groundwater monitoring well targeting the Lachlan Formation in a location upgradient of the base (background) (MW306). The first time detect of PFOS at this location may indicate a source upgradient of the base. However, the detection was below the drinking water guideline value and close to the LOR. Therefore, no update to the CSM has been made at this stage. Further review of this location will be undertaken as more data is collected.

PFAS detections in MW300, located near the base boundary near the stormwater and sewer discharge point from the base and screened in the Lachlan Formation, may indicate migration of PFAS downward to the Lachlan Formation at the base. Given PFAS concentrations have declined in recent samples and no PFAS has been detected in the downgradient well MW246, this aspect of the CSM has not been updated. Further review of this pathway will be undertaken as more data is collected.

PFAS detections in SW218, stormwater discharge from Forest Hill area including the Rural Fire Service station to Gumly Gumly Wetland, indicate there may be a PFAS source in that drainage catchment unrelated to the base. The maximum total PFAS concentration was 1.25 µg/L in November 2022. PFAS concentrations have declined significantly since that date. The maximum concentration of total PFAS at SW206 (drainage discharge to the wetland that include the base) was 3.96 µg/L, also measured in November 2022. The Rural Fire Service website indicates a PFAS investigation was completed in 2024 and identified PFAS in surface water on-site and off-site. The website also indicates that the Rural Fire Service is undertaking an ongoing monitoring program to assess the extent of PFAS contamination and determine if management and / or remediation is required. The CSM has been updated to recognise this source and pathway.

There continues to be no detection of PFAS in surface water in Kyeamba Creek. Therefore, the CSM has been updated to show this is not a transport pathway.

Risk summary

Although localised changes in PFAS concentrations in groundwater and surface water were observed during the monitoring period, the risk profiles associated with exposure to PFAS in these media, as described in the Human Health and Ecological Risk Assessment remain unchanged.

The Stage 1 groundwater model developed as part of the PFAS investigation at the base indicated that PFAS in groundwater from the Gumly Gumly Wetland may reach the RWCC East Wagga Borefield in 55 years from the date of the model report (2018). Additional groundwater monitoring wells installed between the wetland and Marshalls Creek have identified that PFAS impacts in groundwater are closer to the RWCC East Wagga borefield than previously understood. This is unlikely to be due to PFAS moving faster than predicted in the model. It is due to PFAS entering the Lachlan Formation in a more extensive area than assumed in the model and the movement of PFAS from Marshalls Creek downwards to the Upper Lachlan Formation. This movement was assumed not to be occurring in the model.

Therefore, while the overall risk profile has not changed, the presence of PFAS in groundwater within the Lachlan Formation closer to the RWCC East Wagga borefield, indicates PFAS impacts to the water supply bores may occur sooner than initially predicted using the Stage 1 groundwater model.

Next steps

Remediation of the key PFAS sources on base that were contributing to off-base movement of PFAS has been completed. Ongoing management of PFAS at the base can occur through Defence's routine environmental management processes including the PFAS Construction and Maintenance Framework (Defence, 2025). The OMP includes triggers for a review of risks and the potential implementation of management actions both on-base and off-base where changes to the risk profile occurs.

The following actions will be required to continue to monitor and manage PFAS originating from RAAF Base Wagga outside of the base:

- A review of the OMP sampling locations and frequency will be undertaken to ensure monitoring targets areas of highest risk and continues to meet the overall objectives of the OMP.
- The revised OMP will be implemented. Data will continue to be shared with RWCC and NSW agencies. OMRs will continue to be made publicly available through Defence's website.
- Defence will continue to co-operate with RWCC and NSW agencies to manage PFAS risks to water supplies in Wagga Wagga.

Important note about this report

The sole purpose of this report is to present the results of the Ongoing Monitoring Plan for RAAF Base Wagga between the period of April 2024 and February 2025 in accordance with the scope of services set out in the contract between Jacobs Group (Australia) Pty Ltd (Jacobs) and the Department of Defence (Defence). That scope of services, as described in this report, was developed with Defence.

All reports and conclusions that deal with sub-surface conditions are based on interpretation and judgement and as a result have uncertainty attached to them. You should be aware that this report contains interpretations and conclusions which are uncertain, due to the nature of the investigation. No study can investigate every risk, and even a rigorous assessment and/or sampling program may not detect all problem areas within a site.

The passage of time, the possibility of migration, the manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by Defence and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

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Acronyms and abbreviations

Acronym	Definition
ADWG	Australian Drinking Water Guidelines
AFFF	Aqueous Film Forming Foam
AHD	Australian Height Datum
AMO	Aeronautical Meteorological Observer
ASS	Acid Sulphate Soil
BoM	Bureau of Meteorology
BTOC	Below Top of Casing
CSM	Conceptual Site Model
CSR	Contaminated Site Register
DAC	Data Acceptance Criteria
DCCEEW	Department of Climate Change, Energy, Environment and Water
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved Oxygen
DoH	Department of Health
DQI	Data Quality Indicator
DQO	Data Quality Objective
DSI	Detailed Site Investigation
EC	Electrical Conductivity
EPA	Environment Protection Authority
FSANZ	Food Standards Australia and New Zealand
FTP	Fire Training Pad
HDPE	High-density Polyethylene
HEPA	Heads of Environment Protection Authority
HHERA	Human Health and Ecological Risk Assessment
LOR	Limit of Reporting
MW	Monitoring Well
NATA	National Analytical Testing Authority
NEMP	National Environmental Management Plan
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OMP	Ongoing Monitoring Plan
OMR	Ongoing Monitoring Report
ORP	Oxidation Redox Potential
PFAS	Per- and poly-fluoroalkyl substances
PFBS	Perfluorobutanesulfonic acid
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
pH	Potential of Hydrogen

PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
RAAF	Royal Australian Air Force
RFS	Rural Fire Services
RL	Reduced Levels
RPD	Relative Percentage Difference
RRP	Riverina Redevelopment Program
RWCC	Riverina Water County Council
SAQP	Sample and Analysis Quality Plan
SER	Sampling Event Report
STP	Sewage Treatment Plant
SW	Surface Water
SWL	Static Water Level
6:2 FTS	6:2 Fluoroteomer Sulfonate

Units	Term
˚C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	MicroSiemens per centimetre
g	Grams
km	Kilometre
L	Litre
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
mbTOC	Metres below Top of Casing
mg/L	Milligrams per Litre
mV	MilliVolts

1. Introduction

1.1 Background

The Department of Defence (Defence) has engaged Jacobs Group (Australia) Pty Ltd (Jacobs) as the Lead Consultant for the delivery of the Per and polyfluoroalkyl substances (PFAS) Management Area Plan (PMAP) and the implementation of the PFAS Ongoing Monitoring Plan (OMP) at the Royal Australian Air Force (RAAF) Base Wagga Wagga, NSW (the base, Site ID 0906). The base and surrounding Monitoring Area are shown in Figure A-1, Appendix A.

Jacobs has prepared this Ongoing Monitoring Report (OMR) to provide interpretation of the data collected over two sampling events that occurred in April 2024 (conducted by Stantec Australia Pty Ltd) and February 2025 (conducted by Jacobs). These sampling events were undertaken per the Sampling and Analysis Quality Plans (SAQPs) prepared by Cardno (Cardno, 2024a) and Jacobs (Jacobs, 2025c, Appendix C). The SERs associated with this OMR are detailed below:

- Cardno (2024b). RAAF Base Wagga; PFAS OMP Factual Report – Biannual Sampling Event – April 2024 (refer to Appendix D).
- Jacobs (2025b). RAAF Base Wagga, PFAS OMP Sampling Event Report: February 2025 (refer to Appendix E).

An additional sampling event was proposed to be completed in October 2024, however due to delays in the transition between OMP service providers, this sampling event was not completed. The omission of this sampling event is not expected to materially change the understanding of PFAS impacts at the base or in the monitoring area.

1.2 Objectives

The objectives of the ongoing monitoring plan for the base as set out in the OMP are to:

- Monitor changes in PFAS concentrations in surface water discharge to the Council stormwater network from the base as well as downstream locations along Marshalls Creek and at the confluence of Marshalls Creek and Murrumbidgee River;
- Further refine the understanding of the extent of the groundwater contamination plume around the Gumly Gumly Wetland and monitor the movement of this plume;
- Further investigate the PFAS impacts identified in the groundwater well to the east of the base (MW223);
- Monitor changes in PFAS concentrations in Kyeamba Creek;
- Monitor changes in PFAS concentrations in the Murrumbidgee River;
- Monitor changes in PFAS concentrations in sewer discharged from the base; and,
- Collect geological and hydrogeological data for the potential further development of the RAAF Base Wagga Groundwater Model.

The objectives of this OMR are to assess and interpret the PFAS data and other information collected from the base, as specified in the OMP, to identify and evaluate:

- Spatial and temporal (including seasonal) variability of PFAS in the environment
- Changes to sources, transport pathways and/or receptors (the Conceptual Site Model (CSM))
- Whether risks to human and ecological receptors require review

- The influence that risk management activities (e.g., remediation), as outlined in the PMAP, have had on PFAS in the environment, and
- Whether the identified changes trigger an action and/or review.

1.3 Scope of works

Jacobs carried out the following tasks to satisfy the objectives of this assessment:

- Identified and compiled information on known relevant changes to land use or environmental conditions in the Monitoring Area during the reporting period;
- Summarised information on PMAP works or other base activities that may influence PFAS conditions in the Monitoring Area;
- Reviewed monitoring data from the April 2024 and February 2025 OMP sampling events, as well as data from the previous OMP events, Detailed Site Investigation (DSI) and Human Health and Ecological Risk Assessment (HHERA);
- Undertook qualitative analysis of PFAS concentration trends;
- Prepared this report to provide findings relevant to the objectives of the assessment.

Note that the OMR does not:

- Provide recommendations for changes to NSW government precautionary advice (refer to NSW Environment Protection Authority (EPA)).
- Recommend changes or amendments to remediation measures or activities (refer to updates to the PMAP)
- Provide health advice, such as recommendations to limit PFAS exposure through food consumption (refer to NSW Health).

1.4 Guidelines and Legislation

This OMR has been developed with reference to the following standards and guidelines:

- Australian and New Zealand Guidelines (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- Australian Standard (AS, 2005), AS 4482-2005, Guide to the investigation and sampling of sites with potentially contaminated soils, Part 1 – Non-volatile and semi-volatile compounds (withdrawn as pending revision, referred to for 'state of knowledge').
- Department of Defence (2021a), Contamination Management Manual (DCMM), Annex L – Data Management, August 2019, Amended June 2021.
- Department of Defence (2021b), PFAS OMP Ongoing Monitoring Program Reporting Guidance, Version 0. February 2024.
- Department of Defence (2019a), Pollution Prevention Management Manual – Annex 1L: Pollution Prevention Guidance - Routine Water Quality Monitoring.
- NSW Environmental Protection Agency (EPA, 2022), Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales, January 2022.
- Heads of Environmental Protection Authority's Australia and New Zealand (HEPA) (2025), PFAS National Environmental Management Plan (NEMP) Version 3.0, 2025.
- National Environment Protection Council (NEPC) (2018) , National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013a) (ASC NEPM).

- National Health and Medical Research Council (NHMRC) (2019), Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water, August 2019.
- NHMRC (2025), National Water Quality Management Strategy: Australian Drinking Water Guidelines 6, 2011, version 4.0, Updated June 2025.
- USEPA (2006), Guidance for the Data Quality Objectives Process (EPA QA/G-4).
- USEPA (2002), Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

2. Base Settings

2.1 Base location and description

A detailed description of the base is provided in the OMP (Defence, 2019c) and is summarised below.

RAAF Base Wagga is located approximately 10 km east of the central business district of Wagga Wagga, NSW, and covers an area of 3.1 square kilometres. The area has been used as a RAAF base since the 1920s. The base is situated in the suburb of Forest Hill, south of Sturt Highway and east of the residential area.

The base includes the following features:

- Buildings and facilities associated with administration, training, recreation and support services.
- Various accommodation blocks.
- Aircraft hangars (used for maintenance and training), warehousing and refuelling infrastructure.
- Former golf course (no longer in use as a golf course, but is used by multiple RAAF schools for experiential training) in the north-eastern portion of the base.
- Operational airfield, Wagga Wagga City Domestic Airport, in the southern portion of the base and operated by Wagga Wagga City Council (Council) via a lease agreement established between the Commonwealth and Council.

Sewage from the base is discharged to the Forest Hill Sewage Treatment Plant (STP), located approximately 1.8 km to the north of the base. This STP is operated by Council. Previous investigations have identified that PFAS is present in the sewage from the base and sampling at the STP is included as part of the OMP.

The Management Area of the project is defined as the RAAF Base Wagga property, inclusive of the Wagga Airfield. Neighbouring properties in the greater Wagga Wagga area, and public lands such as the Murrumbidgee River and Marshalls Creek are considered to be within the Monitoring Area. The extent of the On-base Management Area and Off-base Monitoring Area is shown on Figure A-2, Appendix A.

2.2 Site setting

2.2.1 Surrounding land uses and zoning

Land surrounding the base is zoned General Residential (R1), Medium Residential (R3), Public Recreation (RE1), General Industrial (E4) and Rural Landscape (RU1). The surrounding land uses are outlined in Table 2-1 below.

Table 2-1: Surrounding Land Uses

Direction	Land Use
North	▪ Sturt Highway, then Forest Hill Public School, surrounded by farm lands (primary production) ▪ Forest Hill sewerage treatment plant ▪ Residential and minor commercial properties (Forest Hill) to the north-west, then Gumly Gumly Irrigation District bore field
West	▪ Residential and commercial properties within the Forest Hill community ▪ Gumly Gumly Wetlands ▪ The Murray Cod Hatcheries are located within the Gumly Gumly Wetland ▪ Farm lands (small holdings) ▪ East Wagga Wagga Industrial area, and the Township of Wagga Wagga further to the west

Direction	Land Use
East	▪ Agricultural lands (primary production)
South	▪ Agricultural lands (primary production)

No changes to land use that may affect the PFAS risk profile for the Monitoring Area are known to have occurred during this OMR period. A review of aerial imagery indicated that residential development at Brunslea Park and Governors Hill, both west of the base, continued during the OMR period. It is understood that these areas are connected to the town water supply.

2.2.2 Environmental Setting

Key details defining the site are summarized in **Table 2-2** below.

Table 2-2: Key Site Details.

Setting	Description
Climate	Climate data measured at the Bureau of Meteorology (BoM) gauge 072150, Wagga Wagga Aeronautical Meteorological Observer (AMO), located at the airport within the base boundary is available from 1941 to present day (BoM, 2025[1]). The following is a summary of temperature and rainfall data from this station: ▪ Mean annual maximum and minimum temperatures ranges from 9.1 to 22.3°C ▪ The yearly mean rainfall is 573.2 mm and spread evenly throughout the year, with slightly increased rainfall from May to October. ▪ The prevailing wind direction in the morning (9 am) is towards the east, while in the afternoon (3 pm) the prevailing winds are towards the west and, to a lesser extent, the south west. [1] Bureau of Meteorology (BoM), Station ID 072150, 1941 – 2025 (BoM, 2025), accessed 11/08/2025.
Topography	The base is situated within the Murrumbidgee Valley and therefore the local topography is relatively flat and has acted as the floodplain for the Murrumbidgee River. Ground elevation at the base ranges from approximately 225 m Australia Height Datum (m AHD) in the south-east to approximately 210 m AHD in the north-west. The area surrounding the base slopes gently down to Kyeamba Creek to the north-east and to Gumly Gumly Wetland and Murrumbidgee River to the north-west. To the north, there is a gentle slope up to an area of granite outcrop, from where it slopes down towards the Murrumbidgee River to the north and north-west.
Geology	**Regional Geology** The base and surrounding area is underlain by alluvial and colluvial sediments (silts and clays) of Cainozoic age. These sediments are underlain by Ordovician-aged shale and siltstone, and by Silurian-aged Wantabadgery granite (1:100,000 Wagga Wagga and Kyeamba Valley geological map – Australian Geological Survey Organisation, Raymond 1993). **Base Specific Geology** Drilling works as part of the DSI (Jacobs, 2018) identified alluvial/colluvial sediments to be about 60 m thick in the vicinity of the base. The upper sediments (Cowra Formation) appear to be approximately 20 m thick. The deeper, coarser grained sediments (Lachlan Formation) are approximately 40 m thick. However, there is no continual distinct boundary between the upper portion of the Lachlan Formation and the lower portion of the Cowra Formation. A change in

Setting	Description
	colouration from red-brown sediments in the Cowra Formation to grey sediments in the Lachlan Formation, generally indicates the interface between the two layers. Recent drilling works during the East Wagga Well Installation works (Jacobs 2025a) have observed distinct confining layers of high plasticity clay (greater than 3m in thickness) between 32 and 40metres below ground level (mbgl). This thick clay layer within the Lachlan formation materials appears to delineate between a semi-confined Upper Lachlan Aquifer that can connect with the Cowra Formation in some locations; and a confined Lower Lachlan Aquifer.
Acid Sulfate Soil	A review of the Acid Sulphate Soils (ASS) risk mapping, available on the Australian Soil Resources Information System (ASRIS) atlas online database indicates that the base and surrounds have an extremely low probability of ASS.
Hydrology	There are four principal surface water drainage pathways from the base: ▪ **Catchment 1: Main stormwater discharge point** – The majority of stormwater from the developed areas of the base is captured via a pit and pipe network that discharges to Gumly Gumly Wetlands via an underground Council stormwater network, then an open channel west of Elizabeth Avenue. The key PFAS source areas on base are all located within catchment 1. The discharge point from base to the Council stormwater network is accessible via a maintenance pit in the north west corner of the base. ▪ **Catchment 2: North West Culvert** - Captures stormwater from the north west portion of the Airport on base within open earthen channels and concrete culverts. There are no key PFAS source areas within this catchment. Discharges from the base to the west occur via a culvert under Elizabeth Avenue into a series of dams on private property then into Gregadoo Creek. ▪ **Catchment 3: South West Dam** – Captures stormwater from the south west portion of the Airport on base within open earthen channels and concrete culverts. There are no key PFAS source areas within this catchment. Surface water runoff from this catchment collects in a dam in the south west corner of the Airport prior to discharge via a culvert under Elizabeth Avenue into a series of dams on private property then into Gregadoo Creek. ▪ **Catchment 4: South East Culvert** – Captures stormwater from the south eastern portion of the Airport on base within open earthen channels and concrete culverts. Based on a review of historical aerial images, it has been identified that drainage works associated with Council taxiway upgrade on the airport (in 2021), has resulted in some runoff from the fire training pad area (adjacent the runway) to the south east culvert (Catchment 4). Water from the channel at this discharge point overflows on to private land and then into a series of dams prior to entering Kyeamba Creek. Kyeamba Creek and Marshall Creek discharge to the Murrumbidgee River to the north and north-west respectively.
Hydrogeology	The hydrogeology at the base consists predominantly of alluvial and colluvial sediments (silts and clays) with a relatively deep regional aquifer (>20 m). The aquifer is typically recharged through surface water via rainfall in the local catchment. Previous investigations have defined two groundwater formations within the alluvium; the Cowra Formation mainly comprised of silts and clays with horizons of sands and gravels and the deeper Lachlan Formation, comprised of coarser grained sediments such as gravels and sands with lenses of clays and silts. The Lachlan Formation is the target formation for groundwater abstraction within the region. Investigations in East Wagga have further identified the presence of a significant clay layer within the Lachlan Formation at a number of drilling locations. In these areas, the

Setting	Description
	groundwater aquifer has been further defined as either the Upper Lachlan or Lower Lachlan Formations. Perched water is present on-base. However, this is discontinuous and does not appear to interact with the underlying regional aquifer (Jacobs, 2018). **Depth to Groundwater (February 2025)** Groundwater in the Cowra Formation was encountered between 167 to 187 mAHD in February 2025 with 6 of 20 Cowra Formation well locations being dry. Groundwater in the Upper Lachlan Formation was encountered between 167 to 189 mAHD. Groundwater in the Lower Lachlan Formation was encountered between 166 to 168m AHD. **Groundwater Flow Direction** The regional groundwater flow in the Cowra, Upper Lachlan and Lower Lachlan formations is interpreted to be to the north-west, towards the Murrumbidgee River. The direction of groundwater flow in the Cowra formation appears to be more heavily influenced by the presence of waterways such as Marshalls Creek.
Environmental Sensitive Areas	The following threatened species and communities have been identified in the Murrumbidgee River, Marshalls Creek and the Gumly Gumly Wetland as having the largest potential susceptibility to elevated PFAS concentrations: ▪ Birds - Australian Bittern (Botaurus poiciloptilus), White-fronted Chat (Epthianura albifrons), Australian Painted Stripe (Rostratula australis), Superb Parrot (Polytelis swainsonii) and Little Eagle (Hieraaetus morphnoides). ▪ Mammals - Eastern Bentwing Bat (Miniopterus schreibersii oceanensis) and Greg-headed Flying Fox (Pteropus poliocephalus). ▪ Fish and crustaceans - Murray Cod (Maccullochella peelii), Trout Cod (Maccullochella macquariensis), Silver Perch (Bidyanus bidyanus), Murray Crayfish (Euastacus armatus), ▪ Amphibians - Sloane's Froglet (Crinia sloanei) and Southern Bell Frog (Litoria raniformis). ▪ Endangered Population – Squirrel Glider in the Wagga Wagga Local Government Area (Petaurus norfolcensis) ▪ Ecological Community – Lower Murray River aquatic ecological community. ▪ Ecological Community - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. Other sensitive areas in the area surrounding the base include the Groundwater Dependent Ecosystems (aquatic and benthic flora and fauna) inhabiting Kyeamba Creek and Gregadoo Creek.

2.3 Rainfall and temperature

Temperature and rainfall data for the base was inferred from the nearby Bureau of Meteorology (BoM) weather station ID072150. The monitoring period between April 2024 and February 2025 was characterized by above average temperatures in all months. A graph of monthly reported maximum temperatures alongside the long-term average is presented in **Figure 2-1** below (Sourced from BoM, 2025).

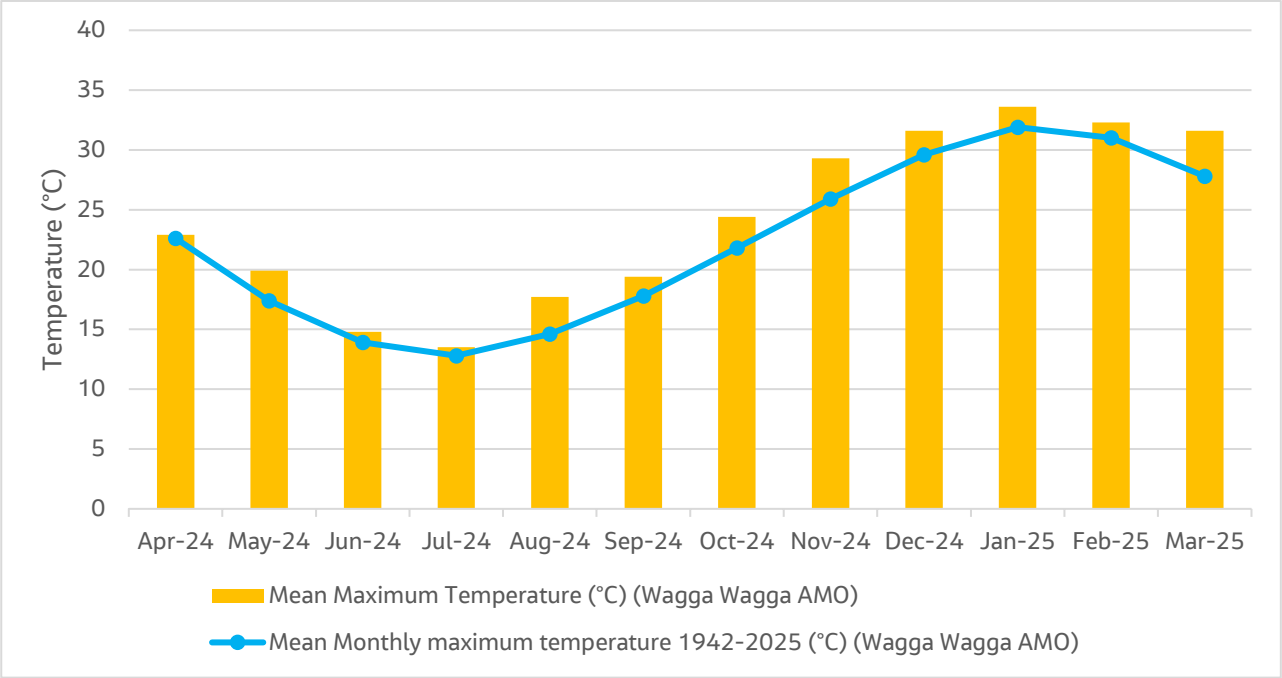


Figure 2-1: Average of monthly maximum temperature (April 2024 – February 2025) vs long-term average monthly maximum temperature at Wagga Wagga AMO (ID72150) (BoM, 2025).

Monthly rainfall during the monitoring period (April 2024 to February 2025) was generally at or below the long-term average, except for November 2024 and January and February 2025 when monthly rainfall was higher than the long-term average. A graph of monthly reported rainfall alongside the long-term average are presented in Figure 2-2 below (Sourced from BoM, 2025).

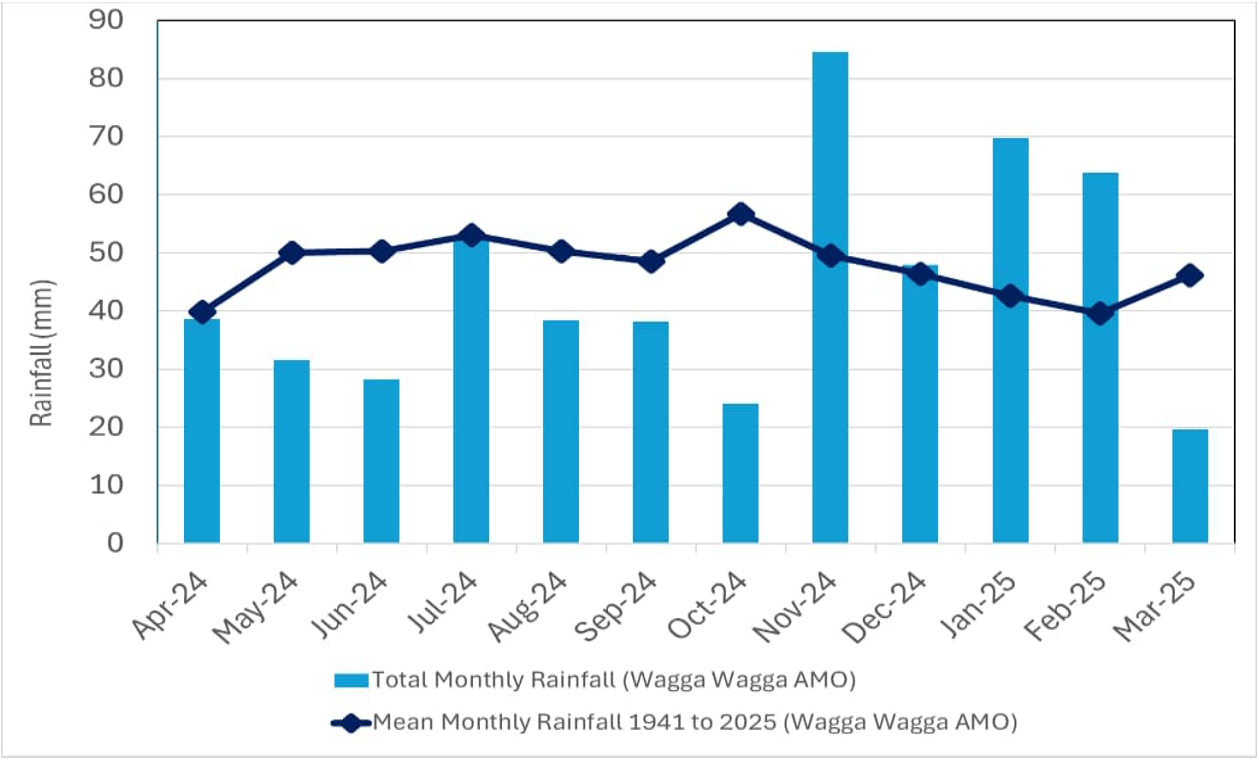


Figure 2-2: Total monthly rainfall (April 2024 – February 2025) vs long-term average monthly rainfall at Wagga Wagga AMO (ID72150) (BoM, 2025).

2.4 Source areas

Four primary PFAS source areas were identified as part of the DSI (Jacobs, 2018) and PMAP (Defence, 2019b). These areas include:

- Former fire training area near the eastern end of the runway (CSR_NSW_000921).
- Current Fire Station Washdown Bay (CSR_NSW_000924).
- Fire Extinguisher Concrete Pad (CSR_NSW_000893) and Former Fire Station Area.
- Aircraft Parking Area to the south of Building 88.

Off-base secondary source areas include the following:

- Forest Hill STP and associated ponds
- Gumly Gumly Wetland
- Marshalls Creek

3. Other aspects

3.1 PMAP Implementation Activities

3.1.1 RAAF Base Wagga, PFAS Mass Flux Assessment

Jacobs conducted a PFAS Mass Flux Study at RAAF Base Wagga (Jacobs 2024b) between December 2020 and October 2022.

The study was designed to estimate the likely mass of PFAS leaving the base via the four key stormwater discharge points Catchment 1 (Main Pit), Catchment 2 (North-West Channel), Catchment 3 (South-West Dam) and Catchment 4 (East Culvert). The study also estimated the mass of PFAS discharging from the base in wastewater.

The study confirmed that the majority of PFAS leaving the base in surface water is via Catchment 1 (Main Pit, approximately 85% of the total leaving the base) which supports the understanding that this stormwater catchment contains the majority of primary PFAS source areas and therefore the majority of PFAS mass. The mass of PFAS discharging from the base via each catchment was estimated as shown in Table 3-1 for the sum of perfluorooctanesulfonic acid (PFOS) and perfluorohexane sulfonic acid (PFHxS).

Table 3-1. PFOS+PFHxS Mass Flux discharging from RAAF Base Wagga

Catchment	Approximate annual PFOS+PFHxS mass (g)			Most likely annual range of PFOS+PFHxS mass through each Catchment
	Wet Year	Average Year	Dry Year	
Catchment 1	~21.1g	~11.4g	~9.2g	10 g - 15 g
Catchment 2	~0.6g	~0.1g	~0.04g	0.1 g - 0.25 g
Catchment 3	~4.7g	~0.9g	~0.3g	1.0 g -2.0 g
Catchment 4	~2.9g	~1.0g	~0.5g	0.8 g - 1.6 g

The study found that remediation efforts directed at reducing the infiltration of PFAS into the Catchment 1 stormwater network (as described within Section 3.2.1) are expected to result in the greatest reduction in the mass of PFAS leaving the base in stormwater and ultimately being discharged to the Gumly Gumly Wetland where connection with regional groundwater has been identified.

Based on the average concentration of PFOS + PFHxS in sewage samples collected through the mass flux study and volumes discharged as measured by Council, approximately 168.5 g of PFOS + PFHxS is discharged from the base in wastewater via the sewer network from the base annually. The mass of PFAS discharged in wastewater via the sewer pathway off-base is significantly greater (approximately 10 times) than the mass discharged via stormwater from all catchments combined. Although it should be noted that this pathway generally presents a lower risk to human health and the environment since it ultimately discharges to the Forest Hill Sewerage Treatment Plant rather than Gumly Gumly Wetland. Treated effluent at the STP is allowed to evaporate. There is no wastewater discharge from the plant and no biosolids from the plant are applied to land. Remediation efforts directed at reducing infiltration of PFAS into the sewer network have also been undertaken within the base remediation works (refer to Section 3.2.1) and are expected to reduce PFAS infiltration into the sewer network.

3.1.2 Forge Street, East Wagga, Well Installation Works

At the commencement of the OMP, Defence installed additional groundwater monitoring wells within the monitoring area to act as sentinel wells for downgradient drinking water supply bores and to validate

assumptions made in the groundwater model developed as part of Defence's investigation of PFAS at the base (see Section 3.1.4).

As part of this well installation program, two groundwater monitoring wells were installed adjacent to Marshalls Creek at the Wagga Wagga City Council Equex Facility on Copland Street (MW247 screened in the Lachlan Formation and MW248 screened in the Cowra Formation). While no PFAS was detected in the Lachlan Formation at this location (MW248), PFAS was reported above the laboratory limit of reporting in the Cowra Formation. As a result, it was identified that there was the potential for connectivity between Marshalls Creek, the Cowra Formation and potentially the Lachlan Formation further downstream.

Given the close proximity of Marshalls Creek to the Riverina Water County Council (RWCC) East Wagga Bore 2 (MW212) (approximately 500 m at the closest point on Kooringal Road), two additional monitoring wells were installed (one targeting the Cowra Formation (MW259) and one targeting the Lachlan Formation (MW258)) between Marshalls Creek and MW212 (approximately 625 m south-east of MW212). The purpose of these wells was to confirm if PFAS was present in groundwater (Cowra and Lachlan Formations) close to Marshalls Creek potentially as a result of connection between Marshalls Creek and groundwater and to act as sentinel groundwater monitoring wells as part of the OMP. These wells were installed by Jacobs on behalf of Defence in July 2023.

Following the installation of the two new groundwater monitoring wells close to Marshalls Creek (MW258 and MW259), PFAS was detected in the Lachlan Formation (MW258). This Lachlan Formation well (MW258) was installed with a screened section at the top of the Lachlan Formation, now referred to as the Upper Lachlan Formation. Therefore, a third well (MW261) was installed at the base of the Lachlan Formation, now referred to as the Lower Lachlan Formation, at the same depth as groundwater extraction at MW212. The installation of this third well was completed in January 2024.

The new wells were developed and sampled along with surrounding existing monitoring wells and a new surface water location within Marshalls Creek.

The sampling results reported concentrations of PFAS above the NEMP 3.0 drinking water guideline values in two wells targeting the Cowra (MW259) and Upper Lachlan Formations (MW258), but were below drinking water guideline values within the Lower Lachlan Formation (MW261). It is noted that following completion of the investigation, new lower PFAS guidelines were released for drinking water in July 2025 (NHMRC, 2025, refer to Section 6). These new lower drinking water guidelines for PFAS were released after completion of the Forge Street, East Wagga report, and therefore the report only considers concentrations against the existing NEMP 3.0 guidelines.

A new surface water sampling location (SW311) was also established within Marshalls Creek adjacent to the new co-located monitoring wells. Concentrations of PFAS were detected in this sample at or below the LOR.

Full details of the well installations and sampling results are provided in Jacobs (2024a). The newly constructed monitoring wells and surface water sample location have been added to the OMP sampling program since they were installed.

3.1.3 East Wagga Groundwater Well Installation

Following completion of the Forge Street well installations and discovery of PFAS above drinking water guidelines in the Upper Lachlan Formation well (MW258), Jacobs completed the installation and sampling of additional groundwater monitoring wells on behalf of Defence. The purpose of the investigation was to further delineate PFAS impacts in groundwater between Marshalls Creek and the RWCC East Wagga Bore 2 (MW212) and to understand if PFAS impacts in groundwater in East Wagga are due to downward migration of PFAS from Marshalls Creek or lateral movement from the plume associated with the Gumly Gumly Wetland.

Nine new monitoring wells were constructed in August and September 2024. Three locations were selected where three co-located wells were installed to target the Cowra, Upper Lachlan and Lower Lachlan Formations. Each new well was developed and sampled by Jacobs following construction.

Lower limits of reporting were used for the analysis of samples from the new wells in order to be able to compare PFAS concentrations to the new drinking water guidelines (see Section 6). Samples from all new monitoring wells reported detectable concentrations of PFAS. Samples from five groundwater monitoring wells exceeded the then current drinking water guideline value for PFOS + PFHxS (namely MW254, MW259, MW262, MW263 and MW269), which were screened in the Cowra or Upper Lachlan Formations. PFOS + PFHxS in samples collected from the Lower Lachlan Formation did not exceed the then current drinking water guideline value at any location.

These results indicated the presence of PFAS impact at concentrations above drinking water guidelines in the Cowra (MW262) and Upper Lachlan Formations (MW263) at locations approximately 350 m from the RWCC East Wagga Bore 2. PFAS was also detected in samples from the Lower Lachlan Formation (MW264) but at levels below the then current drinking water guideline values. It is noted that following completion of the investigation, new lower PFAS guidelines for drinking water were released in July 2025 (see Section 6).

PFAS concentrations in the Cowra and Upper Lachlan Formations were higher at locations closer to Marshalls Creek (MW258, MW259, MW262 and MW263) than the wells further east on Copland Street (MW265 and MW266). it therefore appears that Marshalls Creek is acting as a source of PFAS in groundwater within the Cowra and Upper Lachlan Formations. The presence of a clay layer between the Upper and Lower Lachlan Formations and the substantially lower PFAS concentrations in the Lower Lachlan Formation samples (MW261, MW264, MW267 and MW270) indicates that downward migration of PFAS from the Upper Lachlan Formation to the Lower Lachlan Formation is constrained.

Full details of the East Wagga groundwater investigation are provided in Jacobs (2025a). The newly constructed monitoring wells have been added to the OMP sampling program since they were installed.

3.1.4 Review of the Stage 1 groundwater model

A groundwater model was developed as part of the RAAF Base Wagga PFAS investigation in order to assist in understanding potential groundwater flow paths and potential timeframes for PFAS to travel from the Gumly Gumly Wetland to the RWCC East Wagga borefield and other downgradient water supply bores. Defence convened a Technical Working Group consisting of RWCC, NSW EPA and the NSW Department of Climate Change, Energy, Environment and Water (DCCEEW) to review the scope and methodology for the model as well as provide review and input during the model development.

It was agreed that a groundwater model could be useful in understanding groundwater movement and PFAS risks and that the model should be developed in two stages. Stage 1 would involve the development of a groundwater flow model and the use of particle tracking. Particle tracking estimates the trajectory of individual water particles as they migrate through the aquifer (advective transport). This would enable an assessment of potential source to receptor flow paths, the likelihood that PFAS will reach a defined receptor and the travel times through the groundwater system. Stage 2, if conducted, would involve the development of a solute transport model to estimate PFAS concentrations over time throughout the model domain and, in particular, at defined receptor locations.

Jacobs developed the Stage 1 groundwater model by refining the existing Mid-Murrumbidgee Zone 2 Model developed by NSW Department of Water & Energy in 2007. Data collected during the DSI as well as publicly available data since 2007 were used to update the 2007 model. A pump test program on the RWCC East Wagga bores was also carried out to provide inputs to the model. A report detailing the model development methodology, calibration and sensitivity testing and the outcomes in terms of flow paths and travel times was prepared (Jacobs, 2018b).

The Stage 1 groundwater modelling completed in 2018 estimated that PFAS impacted groundwater would take at least 55 years to travel from the Gumly Gumly Wetland to the RWCC East Wagga Borefield. In developing the groundwater model, several assumptions were made including the extent of the area where downward migration of PFAS from the ground surface to the Lachlan Formation occurred and that PFAS in surface water in Marshalls Creek was not acting as a source of PFAS to groundwater. The Stage 1 groundwater

model report included recommendations for the installation of additional groundwater monitoring wells downgradient of the wetland and along Marshalls Creek to confirm these assumptions. The additional well installations were included as part of the OMP.

As discussed in Sections 3.1.2 and 3.1.3, the installation of additional monitoring wells has identified that Marshalls Creek is acting as an additional secondary source of PFAS to groundwater, and that PFAS is present outside of the predicted extent of the plume in the Stage 1 Groundwater Model. This is unlikely to be due to PFAS moving faster than predicted in the model. It is due to PFAS entering the Lachlan Formation in a more extensive area than assumed in the model and the movement of PFAS from Marshalls Creek downwards to the Upper Lachlan Formation. This movement was assumed not to be occurring in the model.

A review of the need to potentially update the Stage 1 groundwater model based on the new findings in East Wagga was undertaken in 2024. A potential scope of work for this update was developed and shared with RWCC and NSW agencies for comment. Following feedback from this consultation and further review of the data available, Defence determined that updates to the Stage 1 model or progressions to a solute transport model as envisaged in Stage 2 would not be beneficial. This was primarily based on the proximity of PFAS to the RWCC East Wagga bores and the complexity of hydrogeology in the East Wagga area as identified through the well installation program. Instead of updating the model, efforts are now being focussed on monitoring PFAS concentrations through the expanded OMP network and working with RWCC and NSW agencies to plan for PFAS management actions aimed at securing the long term safety of the water supply.

3.2 Infrastructure Works

3.2.1 Fire Extinguisher Training Pad, Former Fire Station and Fire Station Washdown Bay Remediation Works

Previous stages of investigation identified that the Fire Extinguisher Training Pad (FTP), Fire Station washdown bay and the grassed area formerly occupied by the old Fire Station were the source areas representing the greatest risk contribution of PFAS to the sewer and stormwater networks at RAAF Base Wagga. As such, Defence selected these areas for remediation.

Defence engaged Ventia to undertake remediation works in these areas in April 2024. The works involves undertaking the following remediation scope:

- remediation of PFAS impacted concrete and asphalt from the FTP and associated below ground wastewater collection tanks, sumps as well as the oil-water separator via demolition and off-site disposal.
- remediation of PFAS impacted concrete in the wash bay by in-situ treatment by application of a sealant.
- upgrade of sewer pipes within the source area by in-situ relining.
- upgrade of stormwater pipes within the source area by removal and replacement.
- targeted remediation of soil surrounding below ground infrastructure via excavation and offsite disposal.
- treatment of perched groundwater dewatered from excavations via an onsite water treatment plant, with the impacted materials disposed offsite and licensed facility.

Onsite works commenced in April 2024 and were completed in May 2025. During the remediation works 1,330 tonnes of PFAS impacted soil from the remediation area were removed from the base and disposed offsite at a licensed facility. In addition 549 tonnes of potentially impacted concrete, asphalt and rock were also removed from the base and disposed at licensed facilities. Excavations created during the remediation works were backfilled with 1,681 tonnes of imported materials (washed sand, engineered fill and topsoil) from local quarries and suppliers to reinstate the surface of the remediation area.

Repairs to the stormwater pipes during the works included the replacement of 180m of stormwater pipes with new high-density polyethylene (HDPE) connections and inspection pits; and the removal of 75m of

redundant stormwater lines. Approximately 135m of sewer lines were relined during the remediation works and 40m of redundant sewer lines were removed.

Sampling of stormwater and sewer is currently being undertaken to assess the effectiveness of the remediation. A remediation validation report is also being prepared.

3.2.2 Riverina Redevelopment Program

Defence is delivering a program of works across RAAF Base Wagga, Blamey Barracks Kapooka and the Albury Wodonga Military Area, through the delivery of the Riverina Redevelopment Program (RRP). The RRP will create larger, safer and fit-for-purpose facilities across the three bases by improving current facilities and constructing new buildings and infrastructure. The proposed works will also create safer access for vehicles and pedestrians around the three bases.

The RRP commenced construction at the base within the current OMR period. The planning, approval and design activities for several packages of works within the RRP were completed in early 2025, and construction works commenced in mid-2025. The proposed scope of works under the RRP at RAAF Wagga, includes the following:

- Construction of new messing and living in accommodation
- Construction of new training facilities
- Remedial works and upgrades to infrastructure services including repair and/or replacement of sections of the stormwater and sewer network

The current proposed project stages and their progress is outlined in Table 3-2.

Table 3-2. Riverina Redevelopment Program, Current Status of Works

Description of Work Element	Current Status/ Percentage Complete
Securing State and Commonwealth Approvals	Complete
Detailed Design	Conceptual Design 100% Issued For Construction Design 100%
Project Planning – Development of Construction Management Plan to minimise impacts associated with the development	100% complete
Inspection of stormwater network	Initial inspections finalised and sub-contract award for works is imminent. Additional inspections will be undertaken in 2025 prior to Christmas, by sub-contractor
Repairs replacement of sewer network	Initial inspections finalised and sub-contract award for works is imminent. Additional inspections will be undertaken in 2025 prior to Christmas, by sub-contractor
Repairs replacement of stormwater network	Commencing in late 2025

4. Sampling and analysis methodology

This OMR covers two sampling events completed in April 2024 (by Stantec Pty Ltd) and February 2025 (Jacobs). The OMP sampling events were completed in accordance with their associated Sampling, Analysis and Quality Plan (SAQP), which was reviewed and updated as required prior to each sampling event. The most recent Jacobs SAQP is provided in Appendix C.

4.1 OMP sampling locations

4.1.1 Groundwater

Groundwater sampling locations in the OMP or added since the preparation of the OMP, including rationale for the selection of these locations, are summarized in **Table 4-1** below. The groundwater sampling network is shown on Figure A-3, Appendix A.

The groundwater wells were installed with a screened section to target specific formations within the alluvial or granite aquifers..

Table 4-1: Groundwater Sampling Locations

On/Off-Base	Area	No. of locations	Location ID	Formation	Rationale
On-base	Northwest of fire extinguisher concrete pad and former fire station (RMV0098)	2	MW302	Upper Lachlan	Monitoring of Cowra Formation and Lachlan Formation to assess potential off-base migration from source areas.
			MW303	Cowra	
	Along base boundary	11	MW300	Upper Lachlan	
			MW301	Cowra	
			MW304	Upper Lachlan	
			MW305	Cowra	
			MW306	Upper Lachlan	
			MW307	Cowra	
			MW308	Upper Lachlan	
			MW309	Cowra	
			MW310	Upper Lachlan	
			MW311	Cowra	
			MW243 (OMP-MW4)	Upper Lachlan	
Off-base	Gumly Gumly Wetland	5	MW200 (GW200)	Lachlan	The DSI and PMAP identified the Gumly Gumly Wetland as the likely source of PFAS to the regional aquifer. Monitoring in this areas is to assess variability in PFAS concentrations in groundwater as PFAS
			MW204 (GW204)	Upper Lachlan	
			MW233 (GW064412)	Cowra	
			MW312	Upper Lachlan	
			MW313	Cowra	

On/Off-Base	Area	No. of locations	Location ID	Formation	Rationale
					continues to migrate from the wetland.
	Down-gradient of Gumly Gumly Wetland	28	MW238 (OMP-MW3)	Upper Lachlan	Assess changes in PFAS concentrations down-gradient of the Gumly Gumly Wetland in Cowra and Lachlan Formations. These wells also provide a sentinel monitoring network for downgradient water supply bores.
			MW239 (OMP-MW7)	Cowra	
			MW240 (OMP-MW2)	Cowra	
			MW244 (OMP-MW1A)	Lower Lachlan	
			MW245 (OMP-MW1)	Cowra	
			MW247	Upper Lachlan	
			MW248	Cowra	
			MW249	Upper Lachlan	
			MW250	Cowra	
			MW251	Cowra	
			MW252	Upper Lachlan	
			MW253	Lower Lachlan	
			MW254	Cowra	
			MW255	Upper Lachlan	
			MW256	Cowra	
			MW257	Cowra	
			MW258	Upper Lachlan	
			MW259	Cowra	
			MW261[1]	Lower Lachlan	
			MW262[1]	Cowra	
			MW263[1]	Upper Lachlan	
			MW264[1]	Lower Lachlan	
			MW265[1]	Cowra	
			MW266[1]	Upper Lachlan	
			MW267[1]	Lower Lachlan	
			MW268[1]	Cowra	
			MW269[1]	Upper Lachlan	
			MW270[1]	Lower Lachlan	
	Off-base to the north and north-west of base	4	MW214 (Bore 5, GW047279)	Lachlan	Assess PFAS concentrations in groundwater downgradient to the
			MW231 (GW028840)	Lachlan	
			MW235 (GW042804)	Upper Lachlan	

On/Off-Base	Area	No. of locations	Location ID	Formation	Rationale
			MW246	Upper Lachlan	north and north west of the base. MW214 is a supply bore used for irrigation water for the base. MW246 is located between the base and the Gumly Gumly Wetland. PFAS in this well may indicate PFAS is migrating downwards from source areas at the base.
	Property to the east of the base	2	MW241 (OMP-MW5)	Granite	Assess PFAS concentrations in groundwater in the Lachlan Formation and Wantabadgery Granite aquifers. The wells at this location target a north-south orientated dyke at a point where the Kyeamba Creek drainage pathway from the base crosses the Sturt Highway.
			MW242 (OMP-MW6)	Upper Lachlan	
	Drinking Water Supply bores to the north and north-west of base	5	MW209 (GW209)	Lachlan	Monitor PFAS concentrations in water supply bores.
			MW211 (EWB1)	Lachlan	
			MW212 (EWB2)	Lachlan	
			MW213 (EWB3)	Lachlan	
			MW260 (GW039499)	Lachlan	

Notes:

1 – Monitoring wells MW261 – MW270 were installed following the April 2024 sampling event and therefore were only sampled during the February 2025 sampling event.

The additional groundwater monitoring wells installed between the 2024 and 2025 sampling event are located in East Wagga (west of the base) and aimed to provide additional spatial sampling of the groundwater plume extending from the Gumly Gumly Wetland, and improve the understanding of the contribution of Marshalls Creek in the distribution of PFAS in the East Wagga Area. This was further discussed in Sections 3.1.2 and 3.1.3).

4.1.2 Surface Water

Surface water sampling locations included in the OMP or added since the preparation of the OMP, including rational for the selection of these locations, are summarized in Table 4-2 below. The surface water sampling locations are shown on Figure A-4, Appendix A.

Table 4-2: Surface Water Sampling Locations

On/Off-Base	Area	No. of locations	Location ID	Rationale
On-base	Drains discharging from the base	2	SW104	To monitor the concentration of PFAS in stormwater discharged from the base.
			SW206	
	Drain parallel to Forest Hill Rural Fire Service	1	SW218	To evaluate whether the fire station is contributing to PFAS discharging ultimately into the Gumly Gumly Wetland.
Off-base	Marshalls Creek downstream of Gumly Gumly Wetland	5	SW234	Provide spatial coverage of PFAS concentrations in the Marshalls Creek drainage pathway.
			SW262	
			SW294	
			SW310	
			SW311[1]	
	Murrumbidgee River	4	SW212	Quantify PFAS concentrations within the river; SW309 is a sentinel monitoring location for the drinking water supply.
			SW261	
			SW286	
			SW309	
	Kyeamba Creek	2	SW236	Provide spatial coverage of PFAS concentrations in this drainage pathway.
			SW240	
	Forest Hill Sewage Treatment Plant	3	SW228	To monitor changes in PFAS concentrations at the sewage treatment plant.
			SW288	
			SW289	

Notes:

1 – Location SW311 was added for the February 2025 sampling event for the first time, and is located near a set of newly installed nested groundwater monitoring wells. Location was not sampled during the April 2024 sampling event.

4.2 Deviations from OMP and SAQP

Minor deviations of the SAQP were noted during the April 2024 and February 2025 sampling events. Deviations from the SAQP from each sampling event during the monitoring period are summarised in **Table 4-3** below. Full details of deviations for each sampling event are outlined in the sampling event reports provided in Appendix C.

Table 4-3: Deviations from OMP SAQP Summary

Deviation	Rationale	Impact of deviation
April 2024 sampling event		
Unable to sample from location MW208 (OTH206)	Due to access restrictions, location MW208 was unable to be sampled.	Minor negative impact – inability to access location during previous events was noted in the SAQP and was expected for the current event. The well is screened within the upper Lachlan formation and there are other wells targeting the same formation nearby.
Unable to sample from MW235	Pump was not in operation for sampling event.	Minor negative impact – Location last sampled in April 2023 event. Historical results at this location have been below the laboratory limit of reporting (<LOR). The pump used for the bore is currently offline, eliminating any potential exposure pathways.
Unable to sample from MW301, MW303, MW305, MW307, MW309 and MW313	Monitoring wells were found to have insufficient water to collect a sample during the sampling event.	Minor negative impact – The locations represent the Cowra formation at the base boundary. Samples were able to be collected from co-located samples within the Upper Lachlan formation.
October 2024 sampling event		
Groundwater and surface water sampling	The Spring 2024 OMP sampling event initially scheduled for October 2024 was not completed due to consultant changeover and associated delays to re-establish access agreements for offsite sampling locations.	Minor impact Missing the October 2024 event will mean a gap in the temporal dataset. As more sampling events are completed in the future, this impact will reduce.
February 2025 sampling event		
Sampling at MW235 was collected from the wrong location	Two potable water supply taps were incorrectly sampled (at the time thought to be connected to groundwater pumped from MW235). Sampling for MW235 should have been collected from a different tap, which cannot be sampled until the pump connected to MW235 is repaired.	Minor negative impact - Location has previously been sampled from potable water taps, rather than the groundwater at the site. The groundwater bore is no longer being used and therefore groundwater use is unlikely to pose a risk. Historical results at this location collected from the correct well have been <LOR.
Unable to sample from location MW208 (OTH206)	Due to access restrictions, location MW208 was unable to be sampled.	Minor negative impact – inability to access location during previous events was noted in the SAQP and was expected for the current event. The well is within the upper Lachlan Formation and there are other wells targeting the same formation nearby.

Deviation	Rationale	Impact of deviation
Unable to sample from MW301, MW303, MW305, MW307 and MW313	Monitoring wells were found to have insufficient water to collect a sample during the sampling event.	Minor negative impact – The locations represent the Cowra formation at the base boundary. Samples were able to be collected from co-located samples within the Upper Lachlan formation.
Trip blank and rinsate blank samples from batch EM2506606 were analysed for a reduced suite of PFAS instead of the full suite as stipulated in the SAQP.	Field error. Trip blanks and rinsate blanks incorrectly requested for reduced suite PFAS on one batch of samples.	Minor impact - PFAS analytes with relevant assessment criteria are included in the reduced PFAS suite for comparison with primary sample data. This deviation is not considered to impact data quality.
MW204 deployment depth above screened interval	A bore log is not available for the monitoring well, but it had previously been listed that the screened interval was between 34-43mbgl. During gauging a blockage was noted at 18.1m and the Hydrasleeve was deployed at 15.5m consistent with previous deployment depth from Stantec (13.9m).	Moderate negative impact – the sample may not be capturing a representative sample from the target aquifer, and may instead be representative of stagnant water within the casing. An attempt should be made to dislodge the blockage and redeploy at the correct depth during the next sampling event.

4.3 Changes to the monitoring network

As noted in Section 3.1.2, two additional co-located groundwater wells (MW258 and MW259) were installed in June 2023 targeting the Cowra and Upper Lachlan formation north of Copland Street and adjacent to Marshalls Creek. An additional groundwater well (MW261) was installed in January 2024 in the same location targeting the Lower Lachlan formation. A new surface water monitoring location was added to the program within Marshalls Creek near to the new set of three wells (MW58, MW259 and MW261). A new surface water monitoring location (SW311) was also added to the monitoring network for the February 2025 monitoring event. The sampling point is within Marshalls Creek and located approximately 20m west of the three wells (MW58, MW259 and MW261).

As noted in Section 3.1.3, nine additional groundwater wells were installed in September and October 2024 (MW261 – MW270). Three sets of three co-located wells were installed (nine wells in total) were installed at three separate locations in East Wagga (one set on the northern boundary of the RWCC property at Forge Street and two sets at two different locations on Copland Street). At each location, three co-located wells were installed with screens targeting three different groundwater formations (Cowra Formation, Upper Lachlan Formation and Lower Lachlan Formation). These wells were sampled during the February 2025 sampling event, but were not installed and therefore unable to be sampled during the April 2024 sampling event.

5. Quality assurance and quality control

The analytical data presented in this OMR are considered reliable for the report's objectives. A thorough data validation was completed for each sampling event to assess the field and laboratory data quality assurance and quality control (QA/QC) results against the Data Quality Objectives (DQOs) specified in the SAQP.

A detailed data validation for each event, including the assessment of QA/QC samples (such as trip and field blanks, rinsate samples, field and laboratory duplicates and matrix spikes), is presented in its respective sampling event report (SER), which are provided in Appendix D and Appendix E.

The validation confirmed that all DQOs were achieved for precision, accuracy, representativeness, completeness, comparability and sensitivity. All sample results were deemed acceptable for use, with minor deviations noted in the SERs having no material impact on the conclusion of this OMR. Based on this validation, Jacobs confirms that the data set is representative of the on- and off-base environmental conditions at the time of sampling.

All data collected during the monitoring period has been reviewed and uploaded to the Defence ESdat database in accordance with the DCMM requirements.

6. PFAS screening criteria

Guidance documents used to assess the dataset include the following:

- Heads of EPAs Australia and New Zealand (HEPA, 2020). *PFAS National Environmental Management Plan 2.0*. 2020.
- Heads of EPAs Australia and New Zealand (HEPA, 2025). *PFAS National Environmental Management Plan 3.0*. 2025.
- Department of Health, (2017). *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017.
- Food Standards Australia New Zealand (FSANZ, 2017). *Supporting Document 1: Hazard assessment report – Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA), Perfluorohexane Sulfonate (PFHxS).*
- National Health and Medical Research Council (NHMRC, 2019). *Guidance on PFAS in Recreational Water.* August 2019.
- National Health and Medical Research Council (NHMRC, 2019). National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, version 4. June 2025.
- National Environment Protection Council (NEPC), 2013. *Schedule B1. National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013b) *Schedule B1 Guideline on Investigation Levels for Soil and Groundwater.*
- The PFAS NEMP states that the guidelines do not account for effects which result from the biomagnification of toxicants in air-breathing animals or in animals which prey on aquatic organisms. For chemicals with the potential to bioaccumulate (such as PFAS), the Australian New Zealand Environment Conservation Council (ANZECC) Guidelines recommend the use of a higher level of species protection. However, the guideline values for PFOS and PFOA for 99% species protection presented in the PFAS NEMP are ultra-trace levels presenting significant challenges for sampling and analysis. Therefore, screening of surface water data against the 95% species protection values was proposed for the OMP.

The adopted PFAS screening criteria to assess reported concentrations of PFOS, PFHxS, PFOA and Perfluorobutanesulfonic acid (PFBS) in surface water and groundwater samples collected as part of the OMP are presented in **Table 6-1** below.

Table 6-1: Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water	PFOS	0.008 µg/L	These values are from Table 10.6 of the NHMRC Australian Drinking Water Guidelines 6, version 4 (ADWG) (Updated June 2025). The method used to derive the drinking water guideline values is outlined within Chapter 6 of the ADWG. The guideline values are based upon a 70kg adult consuming 2L of water per day, and that volume of water accounts for 10% of tolerable daily intake. The guideline values also apply an uncertainty factor to account for human variability and the uncertainty of extrapolating from studies on animals to humans. Surface water samples from the Murrumbidgee River and all groundwater results were compared to these guideline values.
	PFHxS	0.03 µg/L	
	PFOA	0.2 µg/L	
	PFBS	1 µg/L	
Recreational water use	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with

Pathway	Compound	Criteria	Comment/Reference
	PFOA	10 µg/L	consideration of an event frequency (150 events/year) to calculate an annual ingestion rate of 30 L per year. These values were adopted by the PFAS NEMP 3.0 (HEPA, 2025). All surface water results were compared to these guideline values.
Ecological Receptors			
Freshwater	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2025) and endorse the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. The 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. All groundwater and surface water results were compared to these guideline values.
	PFOA	220 µg/L	

The drinking water guideline values for PFAS shown in Table 6-1 were released in June 2025 by the NHMRC. The new NHMRC guidelines are not included within the OMP but were adopted for the February 2025 sampling event as the most conservative approach to assessing the suitability of waters that can be used for drinking water purposes. The new criteria were therefore applied to sampling results from all groundwater wells and the surface water samples within the Murrumbidgee River (refer to Appendix E). The other surface water locations sampled in the OMR are not currently understood to be used for drinking water purposes and therefore the results from these locations have been assessed against the remaining criteria shown in Table 6-1.

The previous sampling events including the Cardno April 2024 sampling event (refer to Appendix D), applied the drinking water guideline values that were included within the OMP (Defence, 2019c), which are taken from the NEMP 2.0 (HEPA, 2020).

7. Monitoring Data Summary

A summary of monitoring completed in this OMR reporting period is provided in Table 4-1 and Table 4-2 in Section 4.1 above. The sample locations are shown on Figure A-3 and Figure A-4 in Appendix A. Results are summarised in the following sections.

The monitoring activities are summarised in the OMP SERs provided in Appendix D and Appendix E. In additional to the OMP data, Jacobs also considered the historical data for the Monitoring Area that is available in the Defence database.

7.1 Groundwater results

7.1.1 Groundwater elevation and flow directions

During each sampling event, the standing water level (SWL) was gauged in all sampled groundwater monitoring wells (that were not fully encased), using either an interface probe or a water level meter from a specified mark at the top of the well casing. The SWL has been used to determine the inferred groundwater flow direction across the management and monitoring areas. A summary of groundwater elevation measured across the two sampling events is presented in Table 7-1 below.

Table 7-1. Summary of groundwater elevations

Parameter	April 2024	February 2025	Previous (2016 – 2024)
Cowra Formation SWL (mAHD)	193.414 (MW311) to 167.459 (MW250)	202.41 (MW307) to167.09 (MW250)	232.9 (MW307) to 155.492 (MW251)
Upper Lachlan Formation SWL (mAHD)	188.552 (MW306) to 167.498 (MW249)	189.13 (MW310) to 166.81 (MW249)	194.13 (MW310) to 147.02 (MW247)
Lower Lachlan Formation SWL (mAHD)	186.94 (MW241) to 169.47 (MW253)	168.234 (MW253) to 166.17 (MW264)	187.28 (MW241) to 164.6 (MW244)
Inferred flow direction	North to North-West	North to North-West	North to North-West

Regional groundwater flow is inferred to be in a North to North-Westerly direction for the Cowra and Upper/Lower Lachlan Formations, which follows the direction of flow in the Kyeamba and Marshalls Creeks, towards the Murrumbidgee River. This is consistent with the previous sampling events. Groundwater elevations measured in the new monitoring wells installed in East Wagga for this SER have shown that groundwater flow is towards the Murrumbidgee River (north) in the East Wagga area.

The most recent groundwater elevation contours and flow directions are shown in Figure A-5 to Figure A-7, Appendix A. Gauging records for the two sampling events are tabulated in Table B-1, Appendix B.

As one of the objectives of the OMP is to collect additional data on geological and hydrogeological conditions to inform future management actions, including the potential refinement of the RAAF Base Wagga groundwater model, loggers for monitoring water levels were deployed in each of the wells installed for the OMP, the existing Upper Lachlan Formation wells on- base, and the monitoring well next to the current base irrigation bore (MW215). Loggers have been installed within additional locations targeting both the Cowra and Upper Lachlan formations. Figure 7-1 shows the data logging of 10-minute intervals for the standing water Reduced Levels (RLs) at each well within the Cowra Formation during the period October 2023 through to January 2025; and Figure 7-2 showing the RL's over the same period within the Upper Lachlan Formation. A figure combining all monitoring wells over the period is provided in Appendix F. It is noted that MW215, MW238, MW247, MW248, MW249, and MW250 were missing some portions of data due to technical equipment issues.

As discussed in Section 3.1.4, it is not currently anticipated that a refinement to the RAAF Base Wagga groundwater model will be undertaken. The need for ongoing logging of groundwater elevations will be considered as part of the next review of the OMP.

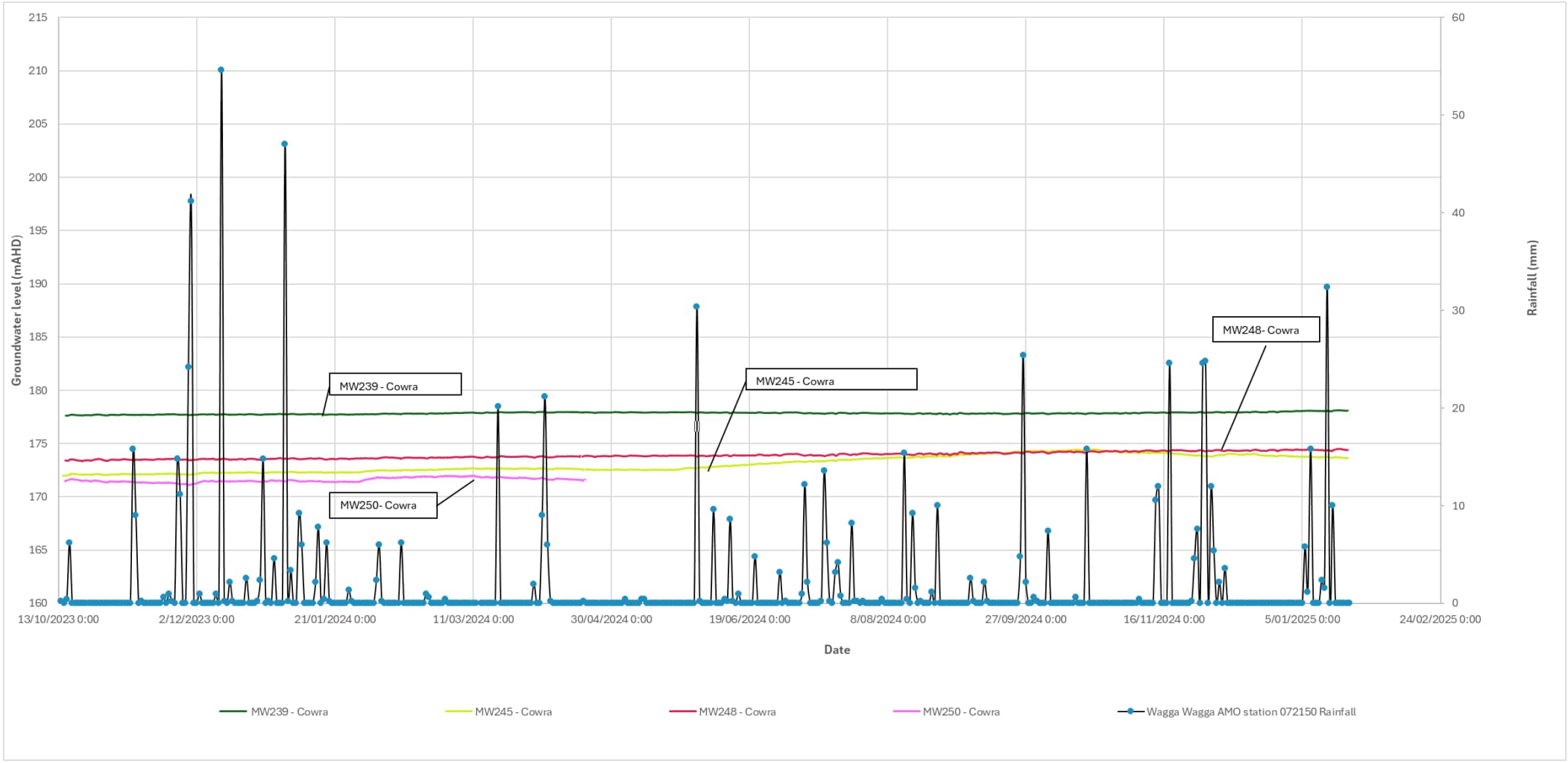


Figure 7-1. Groundwater Elevations over time (October 2023 to February 2025) – Cowra Formation

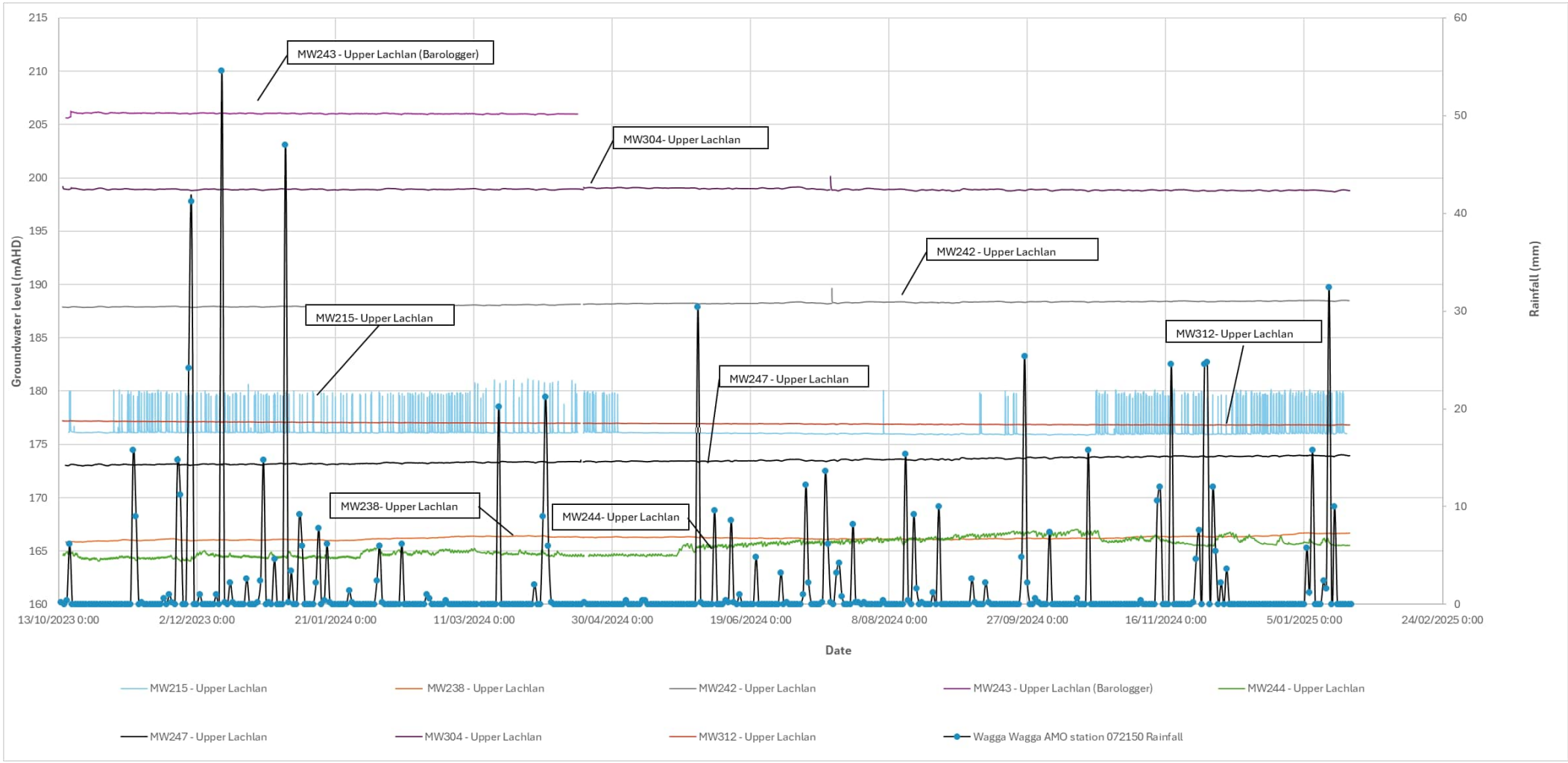


Figure 7-2. Groundwater Elevations over time (October 2023 to February 2025) – Upper Lachlan Formation

A review of the groundwater elevations recorded by the logger network surrounding the base (refer to Figure 7-1 and Figure 7-2), provides the following observations:

- Water levels in most monitoring wells remained relatively stable in each location, throughout the recorded period with some exceptions as noted below.
- Highest water levels were observed on-base in MW243, followed by MW304 located on the western boundary of the airfield, and MW242 located on a private property to the east of the base. All three monitoring wells were screened in the Upper Lachlan Formation.
- The fluctuations present within MW215 over the summer period, appear to correlate with Defence extracting water from the adjacent irrigation bore. These fluctuations are consistent with previous OMRs which have reported approximately 4 – 5 m change in elevation during approximately October to April, likely consistent with pumping in the adjacent bore to supply water for irrigation of grass areas at the base.
- MW312 (Upper Lachlan Formation) within the eastern edge of the Gumly Gumly Wetlands had water levels that remained relatively stable throughout the recorded period.
- Co-located wells north of Sturt Highway and the Gumly Gumly Wetlands MW239 (Cowra Formation) and MW238 (Upper Lachlan Formation), have a consistent approximately 9m difference in water level. The water levels within the Cowra Formation are higher than observed within the Upper Lachlan, and both formations remain relatively stable throughout the monitoring period.
- Co-located wells north of Sturt Highway in East Wagga MW245 (Cowra formation) and MW244 (Upper Lachlan Formation), have a consistent approximately 8m difference in water levels. The water levels within the Cowra Formation are higher than observed within the Upper Lachlan, however the Upper Lachlan water levels appear to fluctuate in this location, whereas the Cowra Formation remains relatively stable. This could potentially be due to influence from pumping in the RWCC East Wagga borefield having more effect on the water levels in the Upper Lachlan (MW244) than within the Cowra formation (MW245). MW245 also appeared to increase in water level slowly over the 18 month recording period, by approximately 2m. The water level readings of MW244 and MW245 prior to removal of the loggers in October 2023 (Cardno, 2024d) and after reinstatement of the loggers October 2023 (the start of the current monitoring period, shown in Figure 7-1 and Figure 7-2, both formations combined are provided in Appendix F), are noted to have changed. In MW244 (Upper Lachlan), the water level changed from 169mAHD down to 164mAHD, while in MW245 (Cowra) the water level increased from 169mAHD to 172mAHD. This difference in water levels is expected to be related to a variance in the depth of installation rather than an immediate change in the water levels at these locations. Relative fluctuations after reinstatement are considered representative.
- Co-located wells adjacent to Marshalls Creek MW248 (Cowra formation) and MW247 (Upper Lachlan formation) have very similar water levels throughout the recorded period. This could indicate vertical connectivity between the formations in this area.
- Water levels in MW250 (Cowra Formation) remained relatively stable throughout the recorded period.

7.1.2 Groundwater field parameters

Groundwater field measurements recorded during the sampling events are tabulated in Table B-1, Appendix B. A summary of maximum and minimum field parameters for this reporting period, along with historical maximum and minimums for the nominated wells, is presented in Table 7-2.

Table 7-2: Summary of range of groundwater quality parameters

Formation	Cowra	Upper Lachlan	Lower Lachlan	Granite
February 2025 – 52 Samples				
Dissolved Oxygen (DO, mg/L)	1.19 (MW251) to 6.02 (MW233)	0.69 (MW246) to 5.73 (MW235)	0.63 (MW261) to 4.01 (MW212)	1.35 (MW241)
Temperature (°C)	19.3 (MW254) to 25.4 (MW240)	18.3 (MW204) to 26.6 (MW238)	18.2 (MW213) to 22.5 (MW270)	22.5 (MW241)
Oxidising/Reducing Potential (ORP mV)	-87.5 (MW259) to 116.7 (MW311)	-178.1 (MW242) to 412.8 (MW235)	-114.3 (MW264) to 130.6 (MW267)	-204.7 (MW241)
Electrical Conductivity (EC, µS/cm)	320 (MW254) to 5,138 (MW311)	373 (MW252) to 1,359 (MW200)	210.4 (MW244) to 426.3 (MW253)	761 (MW241)
Potential of Hydrogen (pH)	5.7 (MW254) to 6.94 (MW239)	6.14 (MW252) to 10.66 (MW263)	6.2 (MW253) to 7.34 (MW264)	10.64 (MW241)
April 2024 – 40 Samples				
DO (mg/L)	1.16 (MW251) to 5.9 (MW256)	0.86 (MW204) to 4.7 (MW300)	1.47 (MW209) to 4.38 (MW213)	1.46 (MW241)
Temperature (°C)	17.7 (MW251) to 21.7 (MW240)	16.5 (MW252) to 25.9 (MW209)	19.2 (MW211) to 20.3 (MW212)	17.4 (MW241)
ORP (mV)	88 (MW240) to 252.9 (MW311)	-118.4 (MW204) to 248.4 (MW258)	87 (MW213) to 217 (MW253)	-143.4 (MW241)
EC (µS/cm)	284.5 (MW254) to 3,913 (MW311)	258 (MW213) to 1,827 (MW306)	211.7 (MW260) to 467.3 (MW212)	837 (MW241)
pH	5.51 (MW259) to 6.67 (MW311)	6.07 (MW252) to 9.47 (MW247)	6.3 (MW253) to 6.61 (MW260)	11.43 (MW241)
Previous (2016 – 2024) – 349 Samples				
DO (mg/L)	0.13 (MW245) to 26.8 (MW245)	0.07 (MW304) to 9.07 (MW249)	0.57 (MW211) to 21.3 (MW213)	0.4 to 5.34 (MW241)
Temperature (°C)	15.1 (MW251) to 23.8 (MW311)	11.5 (MW310) to 29.5 (MW310)	16.9 (MW213) to 25.7 (MW244)	15.1 to 20.8 (MW241)
ORP (mV)	-292 (MW240) to 198.8 (MW245)	-523.5 (MW247) to 1,123 (MW304)	176.6 (MW211) to 198.5 (MW211)	-209 to 212.9 (MW241)
EC (µS/cm)	0.171 (MW254) to 4,665 (MW311)	0.001 (MW249) to 3,810 (MW246)	0.19 (MW253) to 3,269 (MW253)	0.59 to 1,342 (MW241)
pH	5.3 (MW251) to 7.56 (MW240)	5.75 (MW252) to 10.87 (MW247)	6.07 (MW211) to 7.26 (MW213)	6.87 to 11.92 (MW241)

Notes –

Defence installed a new well in January 2024 that was not included in the OMP network, prior to the April 2024 sampling event. An Additional 9 wells were installed by Defence in East Wagga in August/September 2024, following the completion of the April 2024 sampling event.

pH was generally consistent across both sampling events, ranging from slightly acidic to moderately alkaline. Some pH outliers (greater than the typical pH range of 6 to 8) were observed during both sampling events in

MW241 (within the Granite pH of 11.43 and 10.64) and MW247 (Upper Lachlan, pH of 9.47 and 8.88); and within the newly installed MW263 (Upper Lachlan, pH of 10.66) during the February 2025 event It appears that conditions within the granite are more alkaline than the upper formations and this is consistent with previous events. The pH levels within MW247 have also consistently been more alkaline than other wells within the Upper Lachlan formation, with the levels seen during the monitoring period being consistent with the historic pH range from this location. The higher pH levels in the new well has also been seen previously following the installation of a new well and the associated disturbance to groundwater conditions. It is expected that the pH levels will settle over time and reduce toward neutral conditions.

DO reported a wider range in the February 2025 sampling event compared to the April 2024 event. ORP measurements showed more oxidising conditions were present during the April 2024 sampling event, with more reducing conditions observed during the February 2025 event. EC measurements were generally consistent across both sampling events, with a larger range observed during the April 2024 sampling event. No distinct differences in water quality parameters between the Cowra and the Upper/Lower Lachlan Formations, were observed.

7.1.3 Groundwater Sampling Methodology

Groundwater samples were collected using a no-purge methodology with Hydrasleeves™, with the exception of some off-base wells that are fully encased. The Hydrasleeve™ is installed within the screened interval of the well (approximate mid-point) for a minimum of 24 hours prior to sampling. Once sampling is completed a new Hydrasleeve™ is deployed for the subsequent event.

Locations MW200, MW209, MW211, MW212, MW213, MW214, MW231, MW233, MW235 and MW260 are fully encased and therefore were sampled by mechanically powered pumps with sample collection from a designated tap or outlet. Prior to sampling, the pump was allowed to run for at least one minute to purge stagnant water within the well and associated piping.

7.1.4 Groundwater Analytical Results

Groundwater sample locations were grouped into monitoring areas (identified in Table 4-1) to identify trends in PFAS concentrations both laterally and vertically. Laboratory analytical results were compared to the adopted screening criteria (Section 6), and tabulated results are presented in Table B-2, Appendix B. A spatial map of PFOS, PFOA, PFHxS and PFOS+PFHxS concentrations in groundwater during the most recent sampling event are presented in Figure A-8 to Figure A-19, Appendix A.

It is noted that the LOR was reduced following the completion of the April 2024 sampling event. This was initiated when NHMRC announced draft drinking water guideline values that were lower than the LOR that was used in previous events, as shown in Table 7-3.

Table 7-3. Comparison of new screening levels and laboratory LORs

Screening Levels & LORs	PFOA	PFOS	PFHxS	PFBS
April 2024 Drinking Water Screening Level (NEMP 2.0)	0.56	0.07[1]		N/A[2]
April 2024 LOR	0.01	0.01	0.01	0.02
Current Drinking Water Screening Levels (NHMRC 2025)	0.2	0.008	0.03	1
Current LOR	0.002	0.002	0.002	0.002

1 PFHxS and PFOS were combined as assessment criteria for drinking water
2 PFBS was not considered for drinking water prior to 2025

Laboratory reports are included in the SERs, presented in Appendix D and Appendix E.

A summary of groundwater results for the monitoring period is provided in Table 7-4. A summary of deviations from historical groundwater dataset is provided in Table 7-5.

Table 7-4: Summary of PFOA, PFHxS, PFOS and PFHxS+PFOS in Groundwater

Analyte	No. of Samples	Sampling Event	Concentration range (µg/L)	No. of samples > LOR	Human Health Criteria	No. of samples > Human Health Criteria (Drinking Water)	Ecological Criteria	No. of samples > Ecological Criteria
Cowra Formation								
PFOA	12	April 2024	<0.01 - 0.15	2	0.2 µg/L	0	220 µg/L	0
	15	Feb 2025	<0.002 – 0.19	9		0		0
PFHxS	12	April 2024	<0.01 – 0.05	6	0.03 µg/L	2 (MW240, MW248)	N/A	N/A
	15	Feb 2025	<0.002 – 1.18	12		8 (MW240, MW248, MW254, MW256, MW257, MW262, MW311, MW233)		N/A
PFOS	12	April 2024	<0.01 – 0.10	5	0.008 µg/L	5 (MW240, MW248, MW251, MW254, MW311)	0.13 µg/L	0
	15	Feb 2025	<0.002 – 0.221	10		8 (MW233, MW248, MW250, MW254, MW256, MW259, MW262, MW265)		3 (MW233, MW248, MW254)
PFBS	12	April 2024	<0.01 – 0.038	2	1 µg/L	0	N/A	N/A
	15	Feb 2025	<0.002 – 0.252	14		0		N/A
Upper Lachlan Formation								
PFOA	17	April 2024	<0.01 – 0.14	5	0.2 µg/L	0	220 µg/L	0
	20	Feb 2025	<0.002 – 0.004	3		0		0
PFHxS	17	April 2024	<0.01 – 0.71	11	0.03 µg/L	7 (MW243, MW246, MW247, MW252,	N/A	N/A

Analyte	No. of Samples	Sampling Event	Concentration range (µg/L)	No. of samples > LOR	Human Health Criteria	No. of samples > Human Health Criteria (Drinking Water)	Ecological Criteria	No. of samples > Ecological Criteria
						MW304, MW306, MW310)		
	20	Feb 2025	<0.002 – 0.016	7		5 (MW255, MW258, MW263, MW269, MW300)		N/A
PFOS	17	April 2024	<0.01 – 0.30	11	0.008 µg/L	11 (MW242, MW243, MW246, MW247, MW249, MW252, MW255, MW308, MW310, MW312)	0.13 µg/L	1 (MW243)
	20	Feb 2025	<0.002 – 0.015	7		4 (MW255, MW258, MW263, MW269)		0
	20	Feb 2025	<0.002 – 0.253	8		3 (MW263, MW269, MW300)		N/A
PFBS	17	April 2024	<0.01 – 0.18	7	1 µg/L	0	N/A	N/A
	20	Feb 2025	<0.002 – 0.071	5		0		N/A
Lower Lachlan Formation (including Granite formation wells)								
PFOA	11	April 2024	<0.01	0	0.2 µg/L	0	220 µg/L	0
	15	Feb 2025	<0.002 – 0.029	3		0		0
PFHxS	11	April 2024	<0.01 – 0.12	5	0.03 µg/L	2 (MW209, MW244)	N/A	N/A
	15	Feb 2025	<0.002 – 1.00	7		2 (MW200, MW264)		N/A
PFOS	11	April 2024	<0.01 – 0.08	4	0.008 µg/L	4 (MW209, MW241, MW244, MW253)	0.13 µg/L	0

Analyte	No. of Samples	Sampling Event	Concentration range (µg/L)	No. of samples > LOR	Human Health Criteria	No. of samples > Human Health Criteria (Drinking Water)	Ecological Criteria	No. of samples > Ecological Criteria
	15	Feb 2025	<0.002 – 0.294	5		3 (MW200, MW253, MW267)		1 (MW200)
PFBS	11	April 2024	<0.02 – 0.003	1	1 µg/L	0	N/A	N/A
	15	Feb 2025	<0.002 – 0.135	3		0		N/A

Notes: Includes primary samples only, with maximum values adopted from duplicate or triplicate results where they were reported higher than the primary result.

N/A = not applicable – where there are no applicable ecological screening criteria for PFHxS, sum of PFHxS+PFOS, and PFBS.

From the dataset above, there were multiple exceedances of the human health criteria (drinking water) for PFHxS and PFOS across all three formations (Cowra, Upper Lachlan and Lower Lachlan). Exceedances were generally reported at the same sample locations during both sampling events, with additional exceedance locations within the Cowra Formation in the 2025 sampling event due to the installation of additional sampling locations that were not available for sampling in 2024. Exceedances of adopted ecological criteria were also reported for PFOS across all three formations. No concentrations of PFOA or PFBS were reported above adopted human health or ecological criteria during either sampling event.

Table 7-5: Deviations from historical groundwater dataset

Deviation	Year	PFHxS	PFOS	PFOA
First-time detections	Apr 2024	None	None	None
	Feb 2025	MW214[1]	MW214[1], MW306[1]	MW233[1], MW244[1], MW250[1], MW256[1], MW263[1], MW265[1], MW269[1], MW300[1]
New exceedances of ecological criteria	Apr 2024	None	None	None
	Feb 2025	None	MW248 (0.17 µg/L)	None
New exceedances of human health criteria	Apr 2024	None	None	None
	Feb 2025	None	None	None
New minimums	Apr 2024	None	MW200 (0.02 µg/L)	None
	Feb 2025	None	None	None
Previous minimums	2016 - 2024	None	MW200 (0.28 µg/L)	None
New maximums	Apr 2024	None	MW253 (0.10 µg/L)	None
	Feb 2025	MW258 (0.04 µg/L), MW311 (0.8 µg/L)	MW248 (0.17 µg/L)	None
Previous maximums	2016 - 2024	MW258 (0.02 µg/L), MW311 (0.49 µg/L).	MW253 (0.07 µg/L), MW248 (0.10 µg/L).	None

1 – First time detections were the result of the use of reduced LOR's, result is lower than previously used LOR.

Locations that were installed in 2024 (MW261 to MW270) have not been included in the above summary table for new minimums/maximums/first time exceedance of criteria, as they have only had one OMP sampling event completed since being installed. in addition, due to the first-time use of the low-level LOR at some sample locations, some of these locations also reported "new minimums" which are not included in the table above.

PFBS has not been previously considered, and therefore previous maximums and minimums for PFBS have not been included in the table above.

7.2 Surface water

7.2.1 Surface water quality field parameters

Surface water field measurements recorded during the sampling events are tabulated in Table B-2, Appendix B. A summary of maximum and minimum field parameters for this reporting period, along with historical maximum and minimums for the nominated wells, is presented in Table 7-6.

Table 7-6. Summary of range of surface water quality parameters

Parameter	April 2024	February 2025	Previous (2016 – 2024)
No. of samples	16	17	149

Parameter	April 2024	February 2025	Previous (2016 – 2024)
Temperature (°C)	17.4 (SW310) to 20.3 (SW309)	23.1 (SW212 & SW309) to 29.3 (SW234)	10.2 (SW240) to 25.8 (SW289)
pH	6.83 (SW310) to 9.74 (SW228)	6.92 (SW262 & SW310) to 8.01 (SW218)	5.26 (SW286) to 11.55 (SW294)
DO (mg/L)	0.5 (SW289) to 10.71 (SW240)	0 (SW310) to 8.06 (SW286)	0.05 (SW310) to 30.7 (SW240)
EC (µS/cm)	156.7 (SW261) to 1,308 (SW240)	107.9 (SW309) to 691 (SW311)	0.125 (SW212) to 3,990 (SW286)
ORP (mV)	-112.9 (SW288) to 144.3 (SW104)	-103.9 (SW310) to 124.9 (SW260)	-202.10 (SW288) to 199.60 (SW212)

Variation between locations and events is expected in surface water samples, given the variability in environmental conditions during a sampling event and between sampling rounds. A new sample location was added within Marshalls Creek adjacent to MW258, MW259 and MW261 for the February 2025 event.

pH was mostly neutral to alkaline during both sampling events and DO ranges were similar during both sampling events. EC readings were generally consistent across both sampling events, reporting levels consistent with freshwater conditions and slightly fresher in the most recent sampling event. Redox potential was found to consist of mostly of slightly oxidising conditions (ie between 0 and 100mV) during both the April 2024 event and the February 2025 reported. There were two instances of slightly reductive conditions in the April 2024 event and three instances reported during the February 2025 event.

7.2.2 Surface Water Analytical Results

The results of laboratory analysis were compared against the adopted screening criteria (Section 6), and tabulated results are presented in Table B-4, Appendix B. Spatial maps of PFOS, PFOA, PFHxS and PFOS+PFHxS concentrations for surface water for the most recent sampling event are presented in Figure A-20 to Figure A-23, Appendix A.

Laboratory reports are included in the SERs, presented in Appendix D and Appendix E.

A summary of results from the two sampling events is provided in Table 7-7. Deviations from the historical surface water dataset are summarised in Table 7-8.

Table 7-7: Summary of surface water results

Analyte	No. of Samples	Sampling Event	Concentration range (µg/L)	No. of samples > LOR	Human Health Criteria[1]	No. of samples > Human Health Criteria[1]	Ecological Criteria	No. of samples > Ecological Criteria
On-base								
PFOA	3	April 2024	<0.01	0	0.2 µg/L	0	220 µg/L	0
	3	Feb 2025	<0.01 – 0.02	2		0		0
PFHxS	3	April 2024	0.01 – 0.13	3	0.03 µg/L	2 (SW104, SW206)	N/A	N/A
	3	Feb 2025	<0.01 – 0.61	2		2 (SW104, SW206)		N/A
PFOS	3	April 2024	<0.01 – 0.19	2	0.008 µg/L	2 (SW104, SW206)	0.13 µg/L	1 (SW206)
	3	Feb 2025	<0.01 – 0.55	2		2 (SW104, SW206)		1 (SW104)
PFHxS+PFOS	3	April 2024	0.01 – 0.32	3	2 µg/L	0	N/A	N/A
	3	Feb 2025	<0.01 – 1.16	2		0		N/A
PFBS	3	April 2024	<0.02	0	1 µg/L	0	N/A	N/A
	3	Feb 2025	<0.01 – 0.05	2		0		N/A
Off-base								
PFOA	14	April 2024	<0.01 – 0.02	2	0.2 µg/L	0	220 µg/L	0
	14	Feb 2025	<0.002 – 0.01	1		0		0
PFHxS	14	April 2024	<0.01 – 0.30	3	0.03 µg/L	3 (SW228, SW289, SW310)	N/A	N/A

Analyte	No. of Samples	Sampling Event	Concentration range (µg/L)	No. of samples > LOR	Human Health Criteria[1]	No. of samples > Human Health Criteria[1]	Ecological Criteria	No. of samples > Ecological Criteria
	14	Feb 2025	<0.002 – 0.21	2		2 (SW289, SW310)		N/A
PFOS	14	April 2024	<0.01 – 0.68	4	0.008 µg/L	4 (SW228, SW289, SW294, SW310)	0.13 µg/L	3 (SW228, SW289, SW310)
	14	Feb 2025	<0.002 – 0.67	3		3 (SW288, SW289, SW310)		2 (SW289, SW310)
PFHxS+PFOS	14	April 2024	<0.01 – 0.98	4	2 µg/L	0	N/A	N/A
	14	Feb 2025	<0.002 – 0.88	3		0		N/A
PFBS	14	April 2024	<0.02 – 0.08	2	1 µg/L	0	N/A	N/A
	14	Feb 2025	<0.002 – 0.01	1		0		N/A

Notes:

1. Human Health Criteria applied for PFOS, PFHxS, PFOA and PFBS refers to the NHMRC drinking water guidelines. Human Health Criteria applied for PFHxS+PFOS refers to NEMP Recreational Guideline Values.

Includes primary samples only, with maximum values adopted from duplicate or triplicate results where they were reported higher than the primary result.

N/A = not applicable – where there are no applicable ecological screening criteria for PFHxS, PFBS and the sum of PFHxS+PFOS

From the dataset above there were multiple exceedances of the human health criteria (drinking water) for PFHxS and PFOS at both on-base and off-base sample locations. Exceedances of adopted ecological criteria were also reported at both on-base and off-base sample locations during both sampling events. Exceedances were generally reported at the same sample locations during both sampling events. No concentrations of PFOA or PFBS were reported above adopted human health or ecological criteria during either sampling event. No exceedances were reported of the adopted recreational criteria.

Table 7-8: Deviations from historical surface water dataset

Deviation	PFHxS	PFOS	PFHxS+PFOS	PFOA
First-time detections	None	None	None	None
New exceedances of ecological criteria	None	None	None	None
New exceedances of human health criteria	None	None	None	None
New minimums	None	SW228 (<0.01 µg/L)	SW228 (<0.01 µg/L)	SW228 (<0.01 µg/L)
Previous minimums	N/A	SW228 (0.60 µg/L)	SW228 (0.98 µg/L)	SW228 (0.02 µg/L)
New maximums	None	None	None	None
Previous maximums	N/A	N/A	N/A	N/A

New location SW311, that was added to the OMP following the April 2024 sampling event, has not been included in the above summary table for new minimums/maximums, as there is only one OMP sampling event completed since being established.

8. Interpretation and discussion

This section provides discussion of the results of the two sampling events conducted in April 2024 and February 2025, as well as historical data, including commentary on observed trends in concentration, and potential contaminant migration patterns.

Quantitatively trend analysis (using Mann-Kendall analysis) was undertaken for each groundwater and surface water monitoring location, where sufficient temporal data existed (8-10 sampling events). The Mann-Kendall linear trend analysis results are provided in Section 8.2.6.2 and Section 8.3.3.

8.1 Hydrogeology

The physical groundwater conditions during the sampling events since October 2023 are summarised in Section 7.1. The standing water levels were measured in metres from below the top of the casing (m BTOC) at each monitoring well during the sampling event. The standing water levels are then used to determine the groundwater elevations (in m AHD).

The groundwater elevations during each sampling event are used to indicate groundwater flow direction from the base to off-base areas, which potentially depicts the migration route for PFAS in the groundwater flowing from the base. The standing water levels for the past two sampling events remain consistent with previous monitoring with the exception of MW244 and MW245 as discussed in Section 7.1.1. The regional groundwater flow in the Cowra, Upper Lachlan and Lower Lachlan formations are all inferred to be north-westerly, towards the Murrumbidgee River, consistent with the previous sampling events and conclusions drawn in the DSI (Jacobs, 2018). The inferred groundwater flow from the latest sampling event (February 2025) are shown in Figure A-5 to Figure A-7, Appendix A.

8.2 Groundwater results and trends

As mentioned in Section 4.1.1, the groundwater monitoring network was arranged into five broad groups based on the sampling area: On-base monitoring area; Gumly Gumly Wetland; downgradient of Gumly Gumly Wetland; Off-base to the north and north west (including drinking water supply bores); and Off-base to the east. Each sampling area is discussed in the following sections.

8.2.1 On-Base Monitoring Area

A discussion of groundwater results for monitoring wells within the On-base monitoring area, is provided below:

- Nine groundwater samples were collected from within the on-base monitoring area during each sampling event.
- Concentrations of PFHxS exceeded the adopted human health criteria during both sampling events at location MW300 (Upper Lachlan, north eastern corner of the base) and MW311 (Cowra eastern boundary of the base near the runway). The PFHxS results from MW300 is consistent with the historical range of results. The PFHxS result for MW311 was a new maximum detection (previous maximum was 0.49 µg/L in November 2022). The location is only used as a monitoring well, and there are not any nearby users of groundwater. Therefore, there is no change in risk to human health or the environment.
- Concentrations of PFOS exceeded the adopted human health criteria at one location (MW300) in the April 2024 sampling event (0.02 µg/L), but were reported at the human health criteria (0.008 µg/L) in the February 2025 sampling event. These exceedances are consistent with historical range of results and do not indicate a change in risk levels to the surrounding receptors.
- Concentrations of PFOS and PFOA at all on-base sample locations during both sampling events were below the adopted ecological criteria.

- Concentrations of PFOA and PFBS in all on-base samples during both sampling events were below all assessment criteria.

8.2.2 Gumly Gumly Wetland

A discussion of the groundwater results from monitoring wells within the Gumly Gumly Wetland area, is provided below:

- Four groundwater samples were collected from within the area of the Gumly Gumly Wetland during each sampling event.
- Sample locations MW200 (Upper Lachlan) and MW233 (Cowra) both reported concentrations of PFOS exceeding the adopted human health criteria and ecological criteria during both sampling events. Both MW200 and MW233 also reported concentrations of PFHxS above the adopted human health criteria during both sampling events. The concentrations detected are consistent with previous sampling events and do not change risk levels to the surrounding environment or the current understanding of the CSM.
- Location MW200 reported a new minimum value for PFOS in April 2024 at 0.02 µg/L. Locations MW204 and MW312 (Upper Lachlan) both reported concentrations of PFOS below the LOR during both sampling events, despite using lower LOR's during the February 2025 sampling event. This is consistent with previous sampling events where most samples from these locations reported concentrations marginally above or below the LOR for PFOS.
- Concentrations of PFOA within all four samples were reported below the adopted screening criteria in the April 2024 sampling event, but there was a detection of PFOA in MW233 during the February 2025 event. It is noted that the first time detection of PFOA in MW233 was due to the use of low-level LORs for the first time within the February 2025 event, and that the concentration detected was lower than the previous LORs that were used. These detections do not change the risk profile in the Gumly Gumly Wetlands area, or require an update to the CSM.
- Concentrations of PFBS within all four samples were reported below the adopted assessment criteria in both sampling events.

8.2.3 Downgradient of Gumly Gumly Wetland

A discussion of the groundwater results from monitoring wells down-gradient of the Gumly Gumly Wetland, is provided below:

- Groundwater samples were collected from 19 locations downgradient of the Gumly Gumly Wetland during the April 2024 sampling event, the February 2025 sampling event also collected a further 10 samples from newly installed monitoring wells (MW261 to MW270).
- Concentrations of PFOS at MW254 in the Cowra Formation were reported exceeding the adopted ecological and human health criteria during both sampling events. Exceedances at this location are consistent with previous results and do not change the risk to nearby receptors. The proximity of this location adjacent to an open drainage channel that joins the main open drainage channel that connects the Gumly Gumly Wetland and Marshalls Creek may indicate that Marshalls Creek (and the drain connecting to Gumly Gumly Wetland) is a potential secondary source of PFAS contamination to groundwater.
- Concentrations of PFOS in MW248 (0.17 µg/L, Cowra Formation) exceeded both ecological and human health criteria in the February 2025 event, but only exceeded human health criteria in the April 2024 sampling event. The PFOS concentration exceeded the previous maximum concentration. The PFOS+PFHxS result (0.31 µg/L) was also a new maximum concentration detected at this location (the previous maximum concentration is 0.21 µg/L in August 2023). This is a monitoring well only and more than 1km from the nearest RWCC East Wagga extraction bores, therefore there is not considered to be a change in risk to human health or the environment.

- Concentrations of PFOS exceeded the human health criteria in both sampling events in monitoring wells MW253 (Lower Lachlan), MW255 (Upper Lachlan), MW256 (Cowra) and MW259 (Cowra). PFOS within monitoring well MW240 (Cowra) exceeded human health criteria in April 2024 only, while PFOS within monitoring wells MW250 (Cowra), MW258 (Upper Lachlan), MW262 (Cowra), MW263 (Upper Lachlan), MW265 (Cowra), MW267 (Lower Lachlan) and MW269 (Upper Lachlan) exceeded human health criteria in the February 2025 sampling event only. Except for the newly installed monitoring wells, the PFOS concentrations detected were consistent with previous results, and do not represent a change in risk levels to the surrounding environment. It is noted that MW262 and MW263 are located nearest to the RWCC East Wagga Bore 1 (MW212, approximately 350m to the north west of MW262 and MW263). The presence of PFAS closer to the RWCC East Wagga Borefield than was predicted within the Stage 1 groundwater model appears to indicate that there is another mechanism for the distribution of PFAS. The proximity of these wells to Marshalls Creek and the geology observed during the drilling program (identifying that the aquitard between the Cowra and Upper Lachlan Formations was not continuous and could allow for vertical migration of waters in the area near to Marshalls Creek including MW262 and MW263 Jacobs, 2025a) supports the position that Marshalls Creek could be acting as a secondary source of PFAS contamination to groundwater.
- Concentrations of PFHxS exceeded the human health assessment criteria in both sampling events in monitoring wells MW240 (Cowra), MW248 (Cowra), MW254 (Cowra), MW255 (Upper Lachlan) and MW256 (Cowra). PFHxS within monitoring well MW253 (Lower Lachlan) exceeded human health criteria in April 2024 only, while PFHxS within monitoring wells MW259 (Upper Lachlan), MW262 (Cowra), MW263 (Upper Lachlan) and MW269 (Upper Lachlan) exceeded human health criteria in the February 2025 sampling event only. Except for the newly installed monitoring wells, the PFHxS concentrations detected were consistent with previous results, and do not represent a change in risk levels to the surrounding environment.
- It is noted that MW261 – MW270 were sampled for the first time as part of the OMP during the February 2025 sampling event. New maximum concentrations were observed at all of these locations, however it is expected that there will be some fluctuation initially until a baseline for the new locations is established.
- MW240, MW250 and MW256 all reported low level concentrations of PFOA above the LOR for the first time during the February 2025 sampling event. This was due to the use of the low-level LOR which was used for the first time in this sampling event.
- No samples down-gradient of Gumly Gumly Wetland, exceeded the adopted screening criteria for PFBS or PFOA.

8.2.4 Off-base to the north and north-west of the base

A discussion of the groundwater results from monitoring wells to the north and north-west of the base, is provided below:

- Groundwater samples were collected from four locations off-base to the north and north-west of the base during both sampling events. Groundwater samples were also collected from five water supply bores during both events.
- Concentrations of PFOS, PFOA and PFBS at all sample locations were reported below the LOR during both sampling events, which is consistent with previous data from these locations. Location MW214 (Upper Lachlan), reported low level concentrations of PFHxS for the first time in February 2025 at 0.004 µg/L which is below the historical LOR. Concentrations of PFHxS at the other three sample locations were reported below LOR. The results do not indicate any change to the risk of PFAS to the surrounding environment in this area.
- Groundwater samples were collected from five drinking water supply bores to the north and north-west of the base. Concentrations of PFAS in all samples analysed from the drinking water supply bores across both sampling events were below the LOR for all PFAS (noting that the low level LOR was used during the February 2025 sampling round), which is consistent with previous data from these locations.

8.2.5 Off-base to the east of the base

A discussion of the groundwater results from monitoring wells to the east of the base, is provided below:

- Groundwater samples were collected from two locations off-base to the east of the base during both sampling events.
- Concentrations of PFAS at both locations during both sampling events were reported below the LOR for most PFAS, however there were detections of 6:2 fluorotelomer sulfonate (6:2 FTS) in both locations during the February 2025 event. The detections were consistent with previous results at these locations, or were detected at concentrations below the historic LOR and do not change the risk levels to human health or the environment.

8.2.6 Groundwater Assessment

8.2.6.1 Overview of Groundwater Results

All first-time detections of PFOA above the LOR reported during the sampling events (MW214, MW233, MW250, MW256, MW263, MW265, MW269 and MW300), were either new wells included in the sampling for the first time, or were the result of the February 2025 sampling event using low-level LOR for the first time. Concentrations of PFOA at all samples locations were below the assessment criteria, and in the latest sampling event (February 2025), 35 of the 50 locations reported concentrations of PFOA below the low-level LOR.

There were 15 of the 50 locations where PFOS exceeded the drinking water guideline value, and 4 of those locations, also exceeded the ecological criteria (MW200, MW233, MW248 and MW254). The exceedances of drinking water criteria were within the Cowra or Upper Lachlan formations, with the exception of MW253 and MW267 that were within the Lower Lachlan. All exceedances of the PFOS assessment criteria were located within or downgradient of the Gumly Gumly Wetlands. First time detections of PFOS above the LOR were reported for MW244 and MW306 (0.003 and 0.002 µg/L respectively) in the February 2025 sampling event. Both locations are screened in the Upper Lachlan formation and were detected at, or just above, the low-level LOR.

First time detections of PFHxS above the LOR were reported at MW214 in the Upper Lachlan formation to the north of the base which is used to supply irrigation water to the base. PFHxS was the only PFAS detected at this location above the LOR, with a concentration of 0.004 µg/L, lower than the previous LOR used. There were 14 exceedances of the drinking water guideline value for PFHxS, all exceedances were within either the Cowra or Upper Lachlan formations and within or downgradient of the Gumly Gumly Wetland; and at the perimeter of the base (MW300 and MW311).

Concentrations of PFBS were below the assessment criteria at all sample locations in both sampling events.

Overall, the PFAS concentrations in groundwater reported during the April 2024 and February 2025 sampling events were generally consistent with historical ranges and generally within expectations of the current CSM, however further updates to the CSM are necessary including the identification of Marshalls Creek as a secondary source of PFAS impacts (further discussed within Section 9).

8.2.6.2 Groundwater Trend Assessment

In addition to the dataset outlined in Section 7.1.4, historical data were evaluated to analyse temporal patterns.

To determine whether a Mann-Kendall test or if a seasonal Kendall test is appropriate for review of trends in the data set, a test of seasonality was undertaken. This was completed by using the Pearson Correlation Coefficient (R^2) to confirm if there is a linear relationship between the PFAS concentrations (for PFOS, PFHxS, PFOA and PFBS) and the SWL's (in mAHD). To determine the R^2 value, the dataset was first reviewed to

confirm that more than 50% of the dataset had detections (otherwise <LOR was applied), or where less than 50% results were <LOR then ½ LOR value was used for the result.

An R^2 value greater than 0.7 indicates a very strong positive correlation between the data sets, demonstrating that that concentrations of PFAS increase as SWL increase, or the inverse situation where concentrations of PFAS decrease as SWL decreases. An R^2 result would therefore indicate that the PFAS results are seasonally affected and the Mann Kendall test would be inappropriate for assessment of trends, rather that a Seasonal Kendall test would be better suited. The results of the Pearson Correlation Coefficient for the current dataset, are provided in Table 8-1.

Table 8-1. Results of Pearson Correlation Coefficient for Assessment of Data Seasonality

Location	Area	Formation	PFOS	PFHxS	PFOA	PFBS
MW311	Base boundary	Cowra	<LOR	0.12	<LOR	0.45
MW243	Base boundary	Upper Lachlan	<LOR	<LOR	<LOR	<LOR
MW300	Base boundary	Upper Lachlan	0.06	0.03	<LOR	0.04
MW240	Downgradient of Gumly	Cowra	0.00	0.25	<LOR	<LOR
MW245	Downgradient of Gumly	Cowra	<LOR	0.02	<LOR	<LOR
MW248	Downgradient of Gumly	Cowra	0.03	0.08	0.14	<LOR
MW250	Downgradient of Gumly	Cowra	<LOR	0.23	<LOR	<LOR
MW251	Downgradient of Gumly	Cowra	<LOR	<LOR	<LOR	<LOR
MW254	Downgradient of Gumly	Cowra	0.01	0.41	0.00	0.30
MW256	Downgradient of Gumly	Cowra	0.29	0.46	0.07	<LOR
MW257	Downgradient of Gumly	Cowra	<LOR	<LOR	<LOR	<LOR
MW259	Downgradient of Gumly	Cowra	0.46	0.08	0.04	<LOR
MW244	Downgradient of Gumly	Lower Lachlan	<LOR	<LOR	<LOR	<LOR
MW253	Downgradient of Gumly	Lower Lachlan	0.10	0.00	<LOR	<LOR
MW247	Downgradient of Gumly	Upper Lachlan	<LOR	<LOR	<LOR	<LOR
MW252	Downgradient of Gumly	Upper Lachlan	<LOR	<LOR	<LOR	<LOR
MW255	Downgradient of Gumly	Upper Lachlan	0.01	0.01	0.28	0.24
MW258	Downgradient of Gumly	Upper Lachlan	0.09	0.12	<LOR	<LOR
MW241	E of base	Granite	<LOR	<LOR	<LOR	<LOR
MW242	E of base	Upper Lachlan	<LOR	<LOR	<LOR	<LOR
MW312	Gumly Gumly Wetland	Upper Lachlan	<LOR	0.28	<LOR	<LOR
MW246	N & NW of base	Upper Lachlan	<LOR	<LOR	<LOR	<LOR

Bold R^2 value – indicates >0.7

The results of the seasonality assessment did not identify a strong correlation between SWL and the PFAS concentrations, therefore use of a Mann-Kendall analysis is considered appropriate. The temporal trends at specific monitoring locations within the Monitoring Area were assessed using Mann-Kendall analysis, based on the results within the Defence ESdat database, for primary samples only and applying a significance level of 5%.

A Mann-Kendall assessment was undertaken on all locations sampled during the monitoring period, utilising all data available (not just data from the OMP sampling events). The assessment compared the historic

results at each location for PFOS, PFHxS, PFOA and PFBS to identify whether concentrations in later samples were increasing compared to earlier concentrations.

The Mann-Kendall assessment demonstrates an increasing trend in more recent samples, when the calculated 'S-Value' exceeds 0. A reducing trend in more recent samples is present when the 'S-Value' is below 0. However, a statistically significant trend (i.e. where the probability that any observed trend would not occur purely by chance) is present when the probability 'p-value' is less than the significance level, in this case 5%.

Where the Mann-Kendall assessment has identified a significantly increasing trend (refer to Table 8-2), a temporal trend chart has been prepared. The cumulative rainfall (in mm) has also been included on the charts. The rainfall levels show the cumulative volume on record at the Bureau of Meteorology Wagga AMO weather station (072150) in the 7 days prior to collection of the sample from the specific location, to allow for assessment of the influence of rainfall on PFAS concentrations in groundwater.

Table 8-2: Mann-Kendall Analysis Results Summary – Groundwater (Significance Level = 0.05, Primary samples only).

Monitoring Zone	Location Code	Monitoring Unit	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)	PFBS
Gumly Gumly Wetland	MW200	Upper Lachlan	**Decreasing, S=-32, N=11**	**Decreasing, S=-39, N=11**	**Decreasing, S=-23, N=11**	**Decreasing, S=-37, N=11**
	MW204	Upper Lachlan	No Trend, S=0, N=13	**Decreasing, S=-30, N=13**	**Decreasing, S=-21, N=13**	No Trend, S=0, N=13
	MW312	Upper Lachlan	No Trend, S=0, N=11	**Decreasing, S=-36, N=11**	**Decreasing, S=-34, N=11**	No Trend, S=0, N=11
Drinking Water Supply bores to the north and north-west of base	MW209	Unassigned	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW211	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW212	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW213	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
Off-base to the north and north-west of base	MW214	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=12, N=12	No Trend, S=0, N=13
	MW231	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
Gumly Gumly Wetland	MW233	Upper Lachlan	No Trend, S=10, N=11	No Trend, S=3, N=11	No Trend, S=11, N=11	No Trend, S=8, N=11
Off-base to the north and north-west of base	MW235	Upper Lachlan	No Trend, S=0, N=9	No Trend, S=0, N=9	No Trend, S=0, N=9	No Trend, S=0, N=9
Down-gradient of Gumly Gumly Wetland	MW238	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW239	Cowra	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW240	Cowra	No Trend, S=0, N=12	No Trend, S=-5, N=12	**Decreasing, S=-31, N=12**	**Decreasing, S=-28, N=12**
Property to the east of the base	MW241	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW242	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
Down-gradient of Gumly Gumly Wetland	MW243	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW244	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=11, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12

Monitoring Zone	Location Code	Monitoring Unit	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)	PFBS
	MW245	Cowra	No Trend, S=0, N=12	No Trend, S=0, N=12	**Decreasing, S=-24, N=12**	No Trend, S=11, N=12
Off-base to the north and north-west of base	MW246	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
Down-gradient of Gumly Gumly Wetland	MW247	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW248	Cowra	No Trend, S=8, N=9	No Trend, S=4, N=9	**Increasing, S=17, N=9**	No Trend, S=0, N=9
	MW249	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW250	Cowra	No Trend, S=10, N=11	No Trend, S=10, N=11	No Trend, S=-20, N=11	No Trend, S=10, N=11
	MW251	Cowra	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW252	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW253	Lower Lachlan	**Increasing, S=22, N=12**	**Increasing, S=26, N=12**	No Trend, S=3, N=12	**Increasing, S=19, N=12**
	MW254	Cowra	**Increasing, S=28, N=12**	**Increasing, S=32, N=12**	No Trend, S=-18, N=12	No Trend, S=-18, N=12
	MW255	Upper Lachlan	No Trend, S=-8, N=9	No Trend, S=7, N=9	No Trend, S=4, N=9	No Trend, S=1, N=9
	MW256	Cowra	No Trend, S=8, N=9	No Trend, S=-8, N=9	No Trend, S=-12, N=9	No Trend, S=-7, N=9
	MW257	Cowra	No Trend, S=0, N=7	No Trend, S=0, N=7	No Trend, S=0, N=7	No Trend, S=0, N=7
	MW258	Upper Lachlan	No Trend, S=0, N=8	No Trend, S=5, N=8	No Trend, S=6, N=8	No Trend, S=11, N=8
	MW259	Cowra	No Trend, S=-3, N=8	**Increasing, S=18, N=8**	No Trend, S=-10, N=8	**Increasing, S=13, N=8**
Drinking Water Supply bores to the north and north-west of base	MW260	Unassigned	No Trend, S=0, N=5	No Trend, S=0, N=5	No Trend, S=0, N=5	No Trend, S=0, N=5
Down-gradient of Gumly Gumly Wetland	MW261	Lower Lachlan	No Trend, S=0, N=4	No Trend, S=0, N=4	No Trend, S=4, N=4	No Trend, S=0, N=4
	MW262	Cowra	No Trend, S=1, N=3	No Trend, S=1, N=3	No Trend, S=1, N=3	No Trend, S=1, N=3
	MW263	Upper Lachlan	No Trend, S=3, N=3	No Trend, S=-3, N=3	No Trend, S=3, N=3	No Trend, S=2, N=3
	MW264	Lower Lachlan	No Trend, S=0, N=3	No Trend, S=1, N=3	No Trend, S=3, N=3	No Trend, S=0, N=3

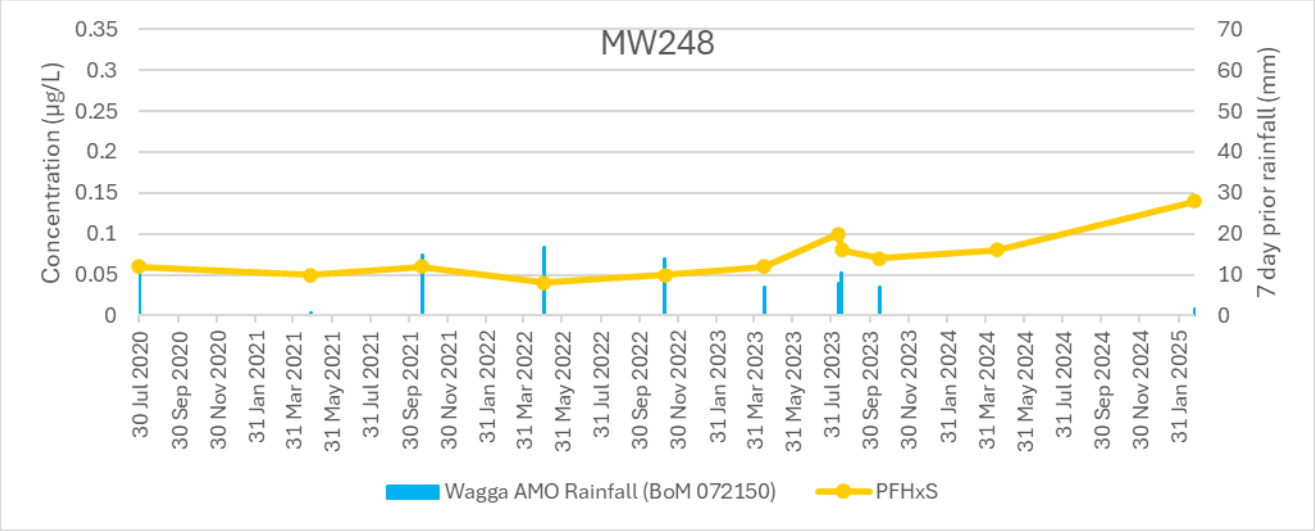
Monitoring Zone	Location Code	Monitoring Unit	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)	PFBS
	MW265	Cowra	No Trend, S=2, N=3	No Trend, S=1, N=3	No Trend, S=-2, N=3	No Trend, S=2, N=3
	MW266	Upper Lachlan	No Trend, S=0, N=3	No Trend, S=1, N=3	No Trend, S=3, N=3	No Trend, S=0, N=3
	MW267	Lower Lachlan	No Trend, S=3, N=3	No Trend, S=-1, N=3	No Trend, S=-1, N=3	No Trend, S=2, N=3
	MW268	Cowra	No Trend, S=0, N=3	No Trend, S=0, N=3	No Trend, S=-3, N=3	No Trend, S=1, N=3
	MW269	Upper Lachlan	No Trend, S=1, N=3	No Trend, S=-3, N=3	No Trend, S=-1, N=3	No Trend, S=-3, N=3
	MW270	Lower Lachlan	No Trend, S=0, N=3	No Trend, S=0, N=3	No Trend, S=2, N=3	No Trend, S=0, N=3
Along base boundary	MW300	Upper Lachlan	No Trend, S=11, N=12	**Increasing, S=31, N=12**	**Increasing, S=43, N=12**	**Increasing, S=43, N=12**
Northwest of CSR_NSW_000893	MW302	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=-22, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
Along base boundary	MW304	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=-11, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW306	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=11, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW308	Upper Lachlan	No Trend, S=0, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13
	MW310	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW311	Cowra	No Trend, S=0, N=7	No Trend, S=-1, N=7	No Trend, S=11, N=7	**Increasing, S=13, N=7**

Most locations (40 of 51) reported no trends for PFOA, PFOS, PFHxS and PFBS. This included the drinking water supply bores sampled as part of the OMP which also all reported no trends for PFOA, PFOS, PFHxS or PFBS.

Decreasing trends were observed in several locations including the Gumly Gumly Wetland (MW200 – PFOA, PFOS, PFHxS and PFBS; MW204 and MW312 – PFOS and PFHxS); and downgradient of the Gumly Gumly Wetlands (MW240 – PFHxS and PFBS; and MW245 – PFHxS).

The Mann-Kendall assessment identified an increasing trend in groundwater sample MW248 (PFHxS, temporal chart shown in Figure 8-1). MW248 is located adjacent to Marshalls Creek and targets groundwater within the Cowra Formation. The concentration in the February 2025 sampling event was a new maximum concentration (0.14 µg/L), representing an increase of 0.04µg/L from the previous maximum. PFHxS results from MW248 have exceeded the new NHMRC drinking water guideline values since March 2023. The temporal chart does not show any seasonal influence or clear correlation with rainfall. The location of this well and the concentration in the Cowra formation support the hypothesis that Marshalls Creek is acting as a secondary source of PFAS contamination to groundwater. While there is an increasing trend at MW248 and, there are no known water extraction bores within 1km that use water within the Cowra formation for drinking water purposes, therefore there is not considered to be a change in risk levels currently associated with this result. The rainfall recorded in the 7days prior to collection of samples from MW248 may slightly adjust the PFAS concentrations, but it is noted that a significant rainfall event (>20mm) has not been recorded prior to sampling at MW248.

Figure 8-1. Time-series plots for MW248 PFHxS, with 7 day rainfall total prior to sampling.



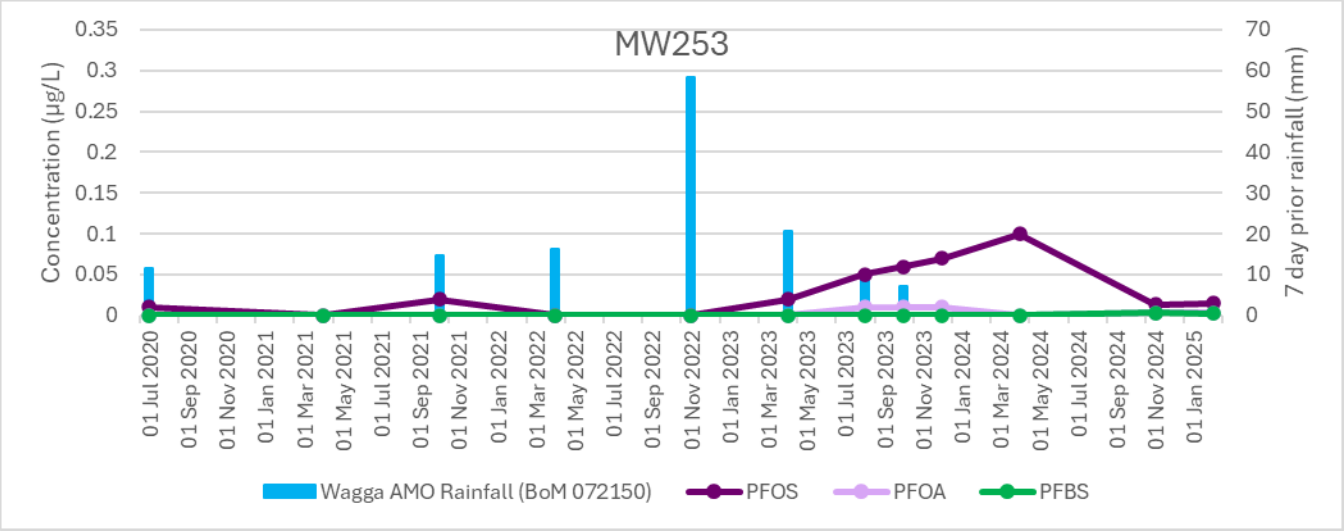
An increasing trend was also observed in co-located monitoring wells MW253 (PFOA, PFOS and PFBS, temporal chart provided in Figure 8-2) and MW254 (PFOA and PFOS, temporal chart provided in Figure 8-3). MW253 and MW254 are located on Copland Street in East Wagga (across from the intersection with Lawson Street). The monitoring wells are located adjacent to an open drainage channel that joins the main open drainage channel that connects the Gumly Gumly Wetland and Marshalls Creek. MW253 was constructed to target the Lower Lachlan formation, while MW254 targets the Cowra formation.

The increasing trends for PFOS in MW253 appear to be related to detections between August 2023 and April 2024, but have dropped in the last two events including the most recent OMP sampling event (February 2025) and testing completed during the East Wagga well installation works (November 2024). Most concentrations are noted to be below the new drinking water guideline values, with the exception of PFOS in the April 2024 event. The increasing PFOA and PFBS results appear to be related to detections at LOR and seem to be relatively consistent with historic results. The temporal chart does not show any seasonal influence or clear correlation with rainfall.

The location of MW253 adjacent to the open drain connecting the Gumly Gumly Wetland and Marshalls Creek supports the hypothesis that Marshalls Creek is acting as a secondary source of PFAS contamination to groundwater. Further the detections within the Lower Lachlan formation also indicates that there may not be a continuous aquitard between the Upper Lachlan and Lower Lachlan in this area. There are also no known drinking water extraction bores within 1km of MW253 and therefore risk levels remain the same despite the potential increasing trend.

Where a significant rainfall event was recorded in the 7 days prior to sampling, concentrations were below the LOR, however detections below LOR were also observed where significant rain had not fallen in the week prior. Therefore rainfall does not appear to influence the PFAS concentrations in MW253.

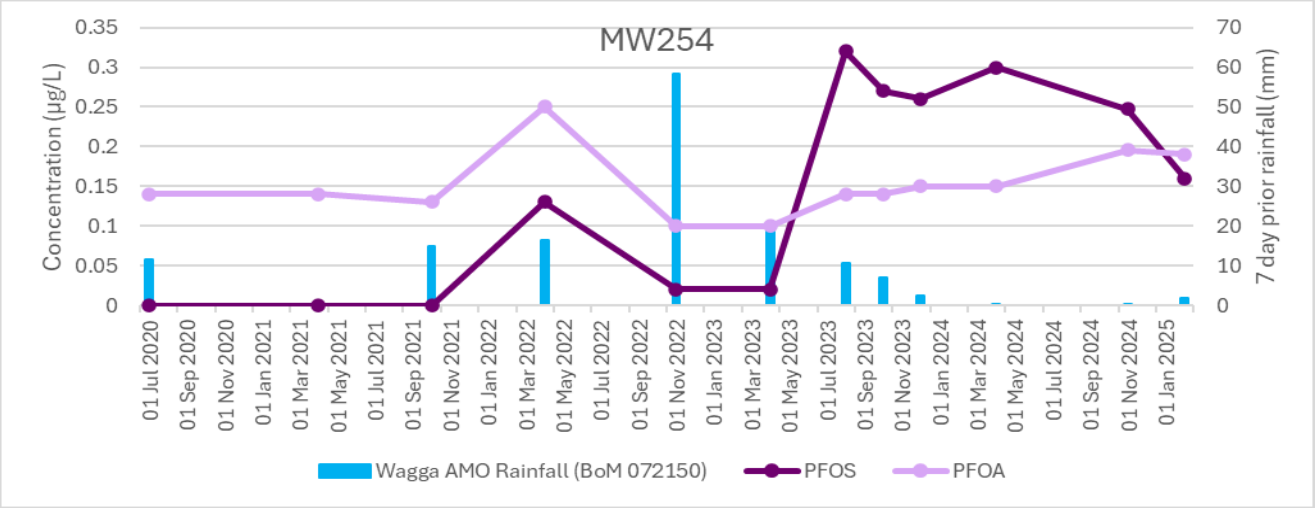
Figure 8-2. Time-series plots for MW253 PFOS, PFOA and PFBS, with 7 day rainfall total prior to sampling.



The PFOS results within MW254 are generally higher than are seen in MW253 and are currently above the drinking water guideline values. The maximum concentration was detected in the August 2023 sampling event, and have remained similar until the April 2024 sampling event and now appear to be dropping. The previous higher results appear to be the cause of the increasing trend assessment, however further testing is necessary to confirm this trend. The PFOA results are also above the new drinking water guidelines in MW254 and recent results appear to be increasing, but have not exceeded the historic maximum. It is understood however that drinking water is not typically extracted directly from the Cowra formation and therefore risk levels to the community are not changed despite the potential increasing trends. Further the higher detections in MW254 (Cowra) compared to MW253 (Lower Lachlan) also supports the position that the open drain between Gumly Gumly Wetlands and Marshalls Creek is acting as secondary source of PFAS contamination.

Where a significant rainfall event (>20mm) was recorded in the 7 days prior to sampling, PFOS and PFOA concentrations were detected at or below the LOR. During dry conditions, concentrations were detected, Therefore significant rainfall in the week prior to sampling at MW254 (within the Cowra Formation) could result in a reduction of PFAS concentrations.

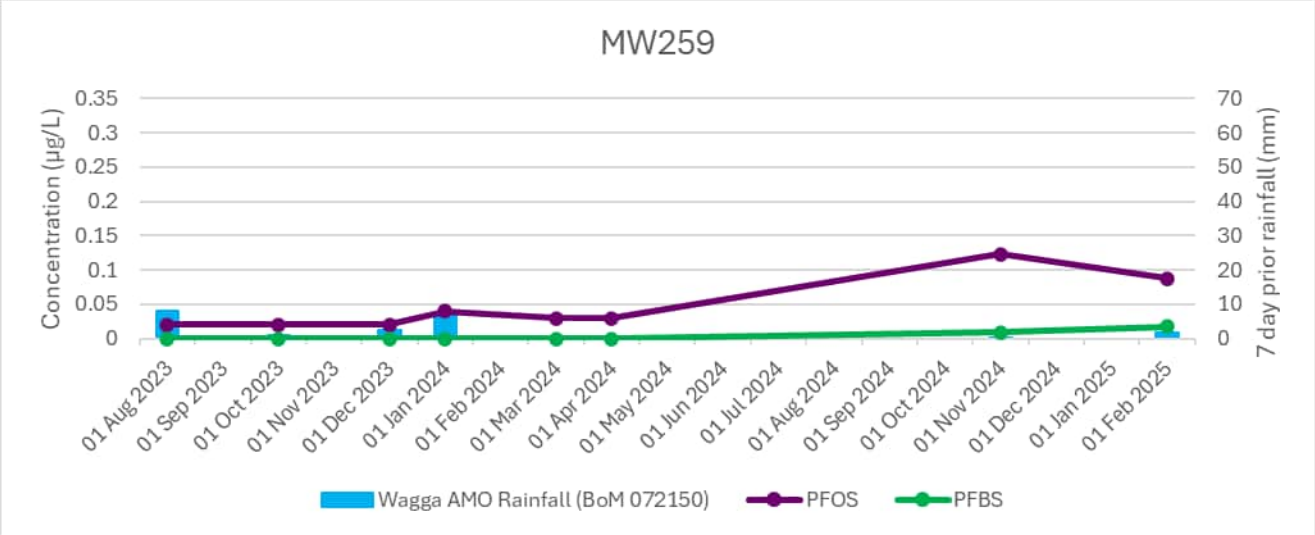
Figure 8-3. Time-series plots for MW254 PFOS and PFOA, with 7 day rainfall total prior to sampling.



An increasing trend was observed in monitoring well MW259 (PFOS and PFBS, temporal chart is provided in Figure 8-4). MW259 is located adjacent to Marshalls Creek and targets the Cowra formation. The well has only been installed recently (July 2023) and therefore only has a relatively small data set for trends to be established. Concentrations of both PFOS and PFBS in the last two samples November 2024 and February 2025 (relating to the East Wagga Well Installation Works and the latest OMP event) are the highest detections at this location and the PFOS concentrations are noted to have exceeded the drinking water guideline values (PFBS did not exceed the guideline value). The nearest groundwater extraction bore is located approximate 650m to the north west of MW259. It is understood however that drinking water is not typically extracted directly from the Cowra formation; therefore the detections at MW259 do not change the current risk levels. The proximity of MW259 to Marshalls Creek, also provides an indication that contamination may be being transported via surface waters within the creek, and that Marshalls Creek is a potential secondary source of PFAS contamination.

There does not appear to be any correlation between rainfall and PFAS concentrations within MW259 (within the Cowra Formation) for PFOS and PFBS, however it is noted that significant rainfall (>20mm) in the week prior to sampling, has not occurred at MW259.

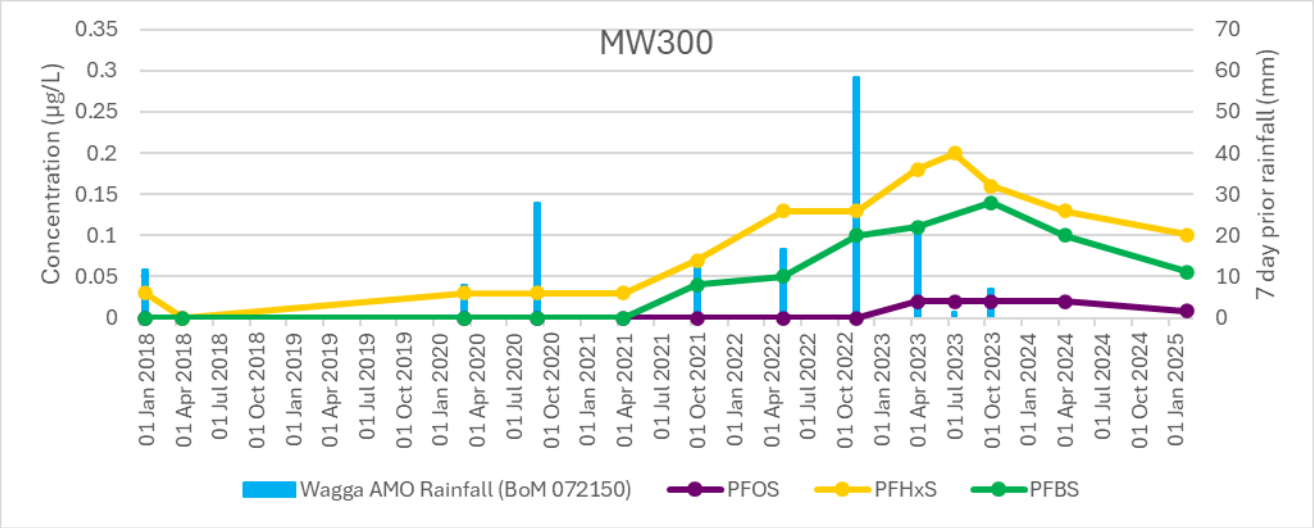
Figure 8-4. Time-series plots for MW259 PFOS and PFBS, with 7 day rainfall total prior to sampling.



Monitoring well MW300 observed an increasing trend for PFOS, PFHxS and PFBS (temporal chart shown in Figure 8-5). MW300 is located on the north western boundary of the base prior to discharge off the base, and targets the Upper Lachlan formation. The PFOS increasing trend appears to be related to detections at close to the LOR and seem to be relatively consistent with historic results. The PFHxS and PFBS increasing trend for MW300 appears to be due to previous increasing trends that peaked in July 2023 (PFHxS) or October 2023 (PFBS). Since the maximum detections, concentrations have continued to drop and are below drinking water criteria in the most recent sampling event, it is not therefore considered to be an increased risk associated with the increasing trend identified during the Mann-Kendall assessment.

The review of rainfall in the week prior to sampling at MW300 (Upper Lachlan), demonstrates minimal if any corelation between significant rainfall and PFAS concentrations within MW300.

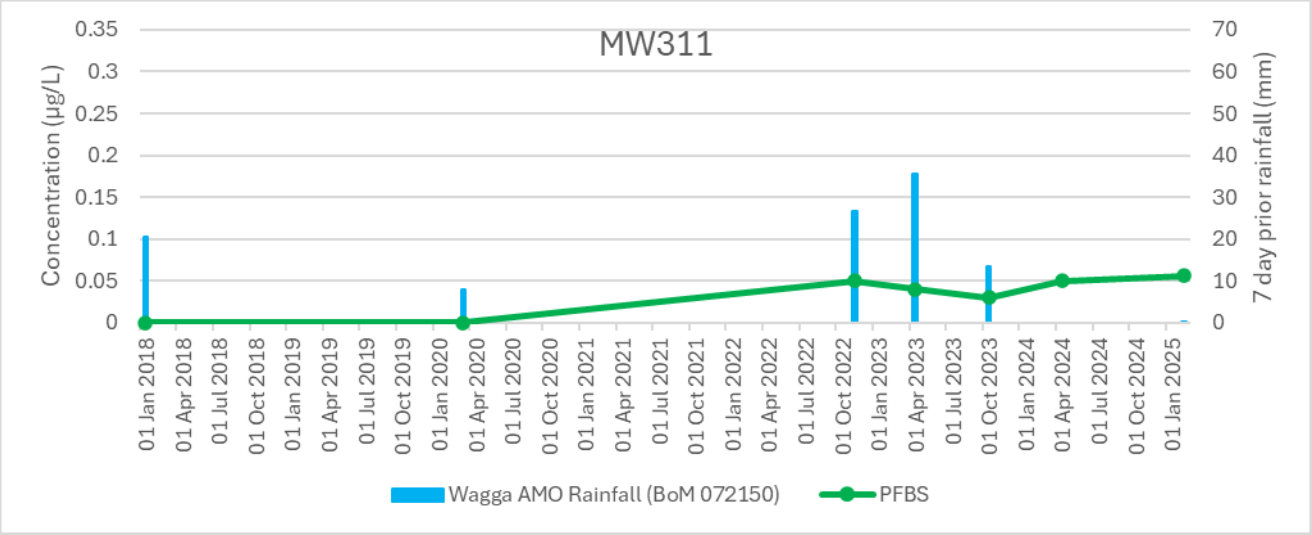
Figure 8-5. Time-series plots for MW300 PFOS, PFHxS and PFBS, with 7 day rainfall total prior to sampling.



An increasing trend was observed in monitoring well MW311 (PFBS, temporal chart provided in Figure 8-6). MW311 is located on the eastern boundary of the base, and targets the Cowra formation. The PFBS concentration equalled the previous maximum in April 2024 and then increased into a new maximum during the February 2025 sampling event (representing a 0.026 µg/L increase). It is however noted that the PFBS concentrations detected are well below the drinking water guideline value (1 µg/L). There is also no known groundwater wells used for drinking water purposes within 1km of this location. These concentrations therefore do not constitute a change in risk to the surrounding community or environment at this stage.

The review of rainfall in the week prior to sampling at MW311 (Cowra), demonstrates no corelation between rainfall and PFBS concentrations within MW311. It is noted that concentrations are low during both dry periods and when significant rainfall occurs; and remain below the drinking criteria for PFBS during either condition.

Figure 8-6. Time-series plots for MW311 PFBS, with 7 day rainfall total prior to sampling.



8.3 Surface water results and trends

As mentioned in Section 4.1.2, the surface water sampling locations have been arranged into on-base and off-base locations. The sampling areas are discussed in the following sections.

8.3.1 On-base surface water discharging from the site

A discussion of the surface water results from the On-base surface water discharging from the site sampling locations, is provided below:

- Three surface water samples were collected during each sampling event from points identified as on-base surface water discharge.
- Sample location SW104 is taken from the stormwater discharge point on the base into the Council stormwater system. SW206 is located down-stream of SW104, and is the discharge point of the stormwater network into Gumly Gumly Wetland. SW218 is taken from the stormwater drain parallel to Elizabeth Avenue, servicing the Forest Hill community including the Forrest Hill Rural Fire Service property.
- Concentrations of PFOS exceeded the drinking water guideline values in SW104 and SW206 during both sampling events. The ecological criterion was also exceeded in SW104 during the February event, and in SW206 during the April 2024 event. It is noted that the all PFAS results from the April 2024 and February 2025 events were consistent with or lower than the previous OMP data from these locations and therefore do not represent a change in risk to human health or the surrounding environment.
- Concentrations of PFHxS exceeded the drinking water guideline values in SW104 and SW206 during both sampling events. The results are an order of magnitude decrease from the previous OMR period in November 2022 and April 2023. Concentrations detected in SW206 are further downstream and more representative of water quality being discharged to Gumly Gumly wetland. There are currently no known extraction of water from the Gumly Gumly Wetlands for drinking purposes and therefore there is not a change in risk levels associated with these results.
- Concentrations of PFOA were below the LOR for all locations in the April 2024 sampling event. During the February 2025 sampling event low-level LORs were used and first time detections were recorded from SW104 and SW206. The detections are lower than previous results from the same locations and therefore do not change risk levels to the nearby and downgradient receptors.

- Location SW218 reported concentrations of PFAS below the LOR during both sampling events, except for a detection of PFHxS equal to the LOR during the April 2024. The results are consistent or lower than previous data from these locations.
- The PFAS concentrations are generally slightly higher at SW104 relative to SW206. This is anticipated, as SW104 is the point at which stormwater on-base discharges to the Council network, and is one of the primary points of PFAS discharge from the base, while SW206 is the point at which the Council stormwater network discharges to an open drain that discharges into the Gumly Gumly Wetlands. Storm water from the residential area to the north of the Council drain (between approximately Cypress Street and Sturt Highway) also combine between SW104 and SW206, which would also reduce the concentrations expected.
- The concentrations of PFAS in SW218 are either non-detections or below the concentrations within SW104 and SW206. A separate investigation of the Forrest Hill Fire Station was undertaken by NSW Rural Fire Services (RFS) and the NSW EPA in November 2023 (RFS 2025). This investigation did identify the presence of PFAS in surface water onsite and offsite, and could be a potential PFAS source contributing to the PFAS being discharged into the Gumly Gumly Wetlands. However the low concentrations from the south Forest Hill stormwater network (SW218) indicates that this is unlikely to be a significant contributor to the PFAS discharge waters into Gumly Gumly Wetland.

8.3.2 Off-base surface water locations

A discussion of the surface water results from the off-base surface water sampling locations, is provided below:

- Marshalls Creek, Downstream of Gumly Gumly Wetlands:
  - Five surface water samples were collected from Marshalls Creek, downstream of the Gumly Gumly Wetland.
  - During both sampling events, location SW310 reported concentrations of PFOS above drinking water guideline value and ecological guideline value, while PFHxS was detected above the drinking water guideline value. Concentrations were consistent with or lower than historic OMP data for this location. SW310 provides an indication of PFAS concentrations in surface water leaving Gumly Gumly wetland and discharging via the open drain towards Marshalls Creek. Concentrations at SW310 were higher than were detected further downstream, but still lower than were detected from the On-base locations (SW104 and SW206) which is expected given the additional mixing of surface waters into the Gumly Gumly Wetland.
  - Location SW294 reported concentrations of PFOS at the LOR (0.01 µg/L) during the April 2024 sampling event, and below LOR during the February 2025 sampling event.
  - All other sample locations reported concentrations of PFAS below the LOR during both sampling events, consistent with findings of historic data for this area.
  - It is noted that Marshalls Creek is not used for drinking water purposes and therefore the low-level LOR was not applied for these samples.
- Murrumbidgee River & Kyemaba Creek:
  - Four surface water samples were collected from the Murrumbidgee River and two from Kyeamba Creek.
  - Concentrations of PFAS were all below the LOR across both sampling events.
  - Water is known to be extracted from the Murrumbidgee River to be used for drinking water purposes. The low-level LOR was therefore applied during the February 2025 sampling event to the four Murrumbidgee River samples to allow for the Murrumbidgee River samples to be assessed against the new NHMRC drinking water guideline values.

  - Kyeamba Creek is not understood to be used for drinking water purposes and therefore the low-level LOR was not applied for these samples.

- Forest Hill STP:
  - Three surface water samples were collected from the Forest Hill STP. SW228 is the EPA sampling point at the STP (indicating the quality of treated effluent), SW288 receives the Municipal effluent inflow and SW289 receives the RAAF Wagga effluent inflow. There is no use of these waters for drinking purposes and the low-level LOR was therefore not used.
  - PFOS levels exceeded the ecological criteria in EPA sampling point at SW228 (April 2024 event), but were below LOR during the February 2025 event. Indicating that the quality of the treated effluent does not represent an increased risk.
  - Concentrations of PFOS in the Municipal effluent inflow (SW288) were below detection limits in April 2024, and just above the LOR in February 2025 event. It is noted that this is the second detection of PFOS at SW288 (previous in October 2022, at the same concentration), since commencement of OMP testing. This result is considered consistent with the historical results and does not indicate a significant contribution of PFAS from the Municipal supply.
  - The PFAS results in SW289 (for both events) are within historical range. As per the OMP, as SW289 reported PFOS+PFHxS concentrations above the recreational water criterion during the November 2022 event, the rolling three-year average was calculated at 1.50 µg/L, with results below the recreational water criterion. As such, a review of the CSM is not required.
  - The overall risk from results at the STP during the monitoring period, are not considered to change the risk levels to the surrounding community or environment.

8.3.3 Surface Water Assessment

The historic surface water results (primary samples only) were reviewed and confirmed to meet the following assumptions:

- The samples from each round of monitoring were independent from one another and were not serially correlated.
- The sample results are considered to be representative of the true conditions at the sampling time.
- The sample collection, handling and measurement methods are consistent with standard consulting and analytical laboratory practices.

The above assumptions are consistent with the requirements under a Mann-Kendall assessment to determine where there a monotonic trends (either increasing or decreasing). Therefore the temporal trends in PFAS for surface waters was undertaken at all locations within the management and monitoring areas using the Mann-Kendall analyses, based on the available results within the Defence ESdat database, for primary samples only and applying a significance level of 5%, utilising all data available (not just data from the OMP sampling events).

Decreasing trends were observed at two surface water sample locations for PFOA, at the Forrest Hill STP EPA sampling point (SW228) and Marshalls Creek (SW234).

No significant increasing or decreasing trends were identified in surface water samples for the remaining surface water samples. Mann-Kendall analysis of the data is presented in Table 8-3.

In addition to the dataset outlined in Section 7.2.2, historical data were evaluated to analyse temporal patterns, including the following:

- The highest concentrations were identified within the Forest Hill STP

Table 8-3: Mann-Kendall Analysis Results Summary – Surface Water (Significance Level = 0.05, Primary samples only).

Monitoring Zone	Location Code	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)	PFBS (µg/L)
Stormwater drainage to Gumly Gumly Wetland	SW104	No Trend, S=-260, N=84	No Trend, S=-308, N=84	No Trend, S=-378, N=84	No Trend, S=-19, N=84
	SW206	No Trend, S=-7, N=13	No Trend, S=-12, N=13	No Trend, S=-6, N=13	No Trend, S=5, N=13
Marshalls Creek downstream of Gumly Gumly Wetland	SW212	No Trend, S=0, N=13	No Trend, S=-4, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13
Stormwater drainage from Forest Hill Rural Fire Service	SW218	No Trend, S=-5, N=11	No Trend, S=-9, N=11	No Trend, S=-10, N=11	No Trend, S=-9, N=11
Forest Hill Sewage Treatment Plant	SW228	**Decreasing, S=-37, N=14**	No Trend, S=-11, N=14	No Trend, S=-24, N=14	No Trend, S=-16, N=14
Marshalls Creek downstream of Gumly Gumly Wetland	SW234	**Decreasing, S=-33, N=12**	No Trend, S=-17, N=12	No Trend, S=-12, N=12	No Trend, S=5, N=12
Kyeamba Creek	SW236	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	SW240	No Trend, S=0, N=10	No Trend, S=1, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
Marshalls Creek downstream of Gumly Gumly Wetland	SW261	No Trend, S=0, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13
	SW262	No Trend, S=-9, N=12	No Trend, S=-1, N=12	No Trend, S=5, N=12	No Trend, S=0, N=12
	SW286	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
Forest Hill Sewage Treatment Plant	SW288	No Trend, S=0, N=14	No Trend, S=18, N=14	No Trend, S=0, N=14	No Trend, S=0, N=14
	SW289	No Trend, S=-10, N=12	No Trend, S=18, N=12	No Trend, S=8, N=12	No Trend, S=10, N=12
Marshalls Creek downstream of Gumly Gumly Wetland	SW294	No Trend, S=-13, N=11	No Trend, S=-2, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	SW309	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	SW310	No Trend, S=-18, N=10	No Trend, S=-13, N=10	No Trend, S=-11, N=10	No Trend, S=-15, N=10
	SW311	No Trend, S=0, N=3	No Trend, S=-2, N=3	No Trend, S=0, N=3	No Trend, S=0, N=3

9. Conceptual site model

The conceptual site model (CSM) was developed during the DSI (Jacobs, 2018) and HHERA (EnRiskS, 2018) and summarised in the PMAP (Defence, 2019b). The CSM can be reviewed and modified as conditions onsite change whether due to works completed by Defence or others, but as yet has not been formally revised since the PMAP.

The OMP sampling events (and other recent investigations and remediation works) over the current and previous monitoring periods, have provided additional data to further understand the changing conditions of the PFAS concentrations in groundwater and surface water. This data has been used to review the CSM, with the key findings and consideration whether the CSM should be updated based on these findings outlined in Sections 9.1 to 9.3.

The updated CSM based on the key findings is outlined within Section 9.4 and presented in Figure 9-1 and Figure 9-2.

9.1 PFAS Source Areas

The review of the latest data in relation to PFAS source areas and whether the CSM needs to be updated has identified the following:

- Remediation works at RAAF Base Wagga had commenced during the current OMR period and were completed in May 2025 (by the time of completion of this report). The remediation works removed the Fire Extinguisher Concrete Pad and associated pipework with the former fire station (CSR_NSW_00893). In addition, the stormwater pipework (including the oil/water separator) have been removed and replaced at the Fire Station Washdown Bay (CSR_NSW_000924). The concrete surface at the Washdown Bay has also had a concrete sealant applied to the surface to reduce interaction of runoff with any concrete impacted with PFAS. Sewer lines in the vicinity of the Remediation area have also been lined, to groundwater migration into the sewer network. In addition, 1,330 tonnes of impacted soil was removed from the base and taken to a licensed landfill for disposal. Performance monitoring of the effectiveness of the remediation works is ongoing.
- MW306 was installed during the DSI to assess PFAS concentrations in groundwater upgradient of the base (background). The first time detect of PFOS at this location may indicate the presence of a source upgradient of the base. However, the detection was a result of lowering the LOR for the February 2025 event. The concentration is below the drinking water guideline value and also below the previously used LOR. Therefore, no update to the CSM sources has been made for this result. Further review of this location will be undertaken as more data is collected.
- PFAS detections in SW218, stormwater discharge from Forest Hill area including the Rural Fire Service station to Gumly Gumly Wetland, indicate there may be a PFAS source in that drainage catchment unrelated to the base. The maximum total PFAS concentration in SW218 was 1.25 µg/L in November 2022. PFAS concentrations have declined significantly since that date (below LOR in February 2025). The maximum concentration of total PFAS at SW206 (drainage discharge to the wetland that include the base) was 3.96 µg/L, also measured in November 2022. The Rural Fire Service website (Rural Fire Service, 2025) indicates a PFAS investigation was completed in 2024 and identified PFAS in surface water on-site and off-site. The website also indicates that the Rural Fire Service is undertaking an ongoing monitoring program to assess the extent of PFAS contamination and determine if management and / or remediation is required. The CSM has been updated to recognise this source and pathway.
- PFAS detections in groundwater east of the base (MW241 screened in the granite and MW242 screened in the Lachlan Formation) have been limited to 6:2 FTS only. Apart from one sample from MW241 where 6:2FTS was reported to be 0.112 µg/L, all other samples from this well reported PFAS below LOR. 6:2 FTS was only reported in MW242 when the low-level LOR was adopted in the most recent sampling event. MW241 and MW242 were installed as part of the OMP following a detection of PFAS in an existing bore

at the property east of the base during the DSI. The PMAP noted that the detection is unlikely related to PFAS from the base but recommended further investigation. Based on the data collected during the OMP from these wells, no significant PFAS impacts are present.

9.2 PFAS Pathways

The review of the latest data in relation to PFAS migration pathways and whether the CSM needs to be updated has identified the following:

- PFAS detections in MW300, located near the base boundary near the stormwater and sewer discharge point from the base and screened in the Lachlan Formation, may indicate a potential pathway for migration of PFAS downward to the Lachlan Formation at the base. Given PFAS concentrations have declined in recent samples and no PFAS has been detected in the downgradient well MW246, this aspect of the CSM has not been updated. Further review of this pathway will be undertaken as more data is collected.
- There continues to be no detection of PFAS in surface water in Kyeamba Creek. Therefore the CSM has been updated to show this is not a transport pathway.
- East Wagga hydrogeology is complex. The groundwater model for RAAF Base Wagga which was undertaken as part of the DSI and HHERA was developed on the following key assumptions:
    1. The starting point for "particles" in the Lachlan Formation was the approximate lateral extent of the Gumly Gumly Wetland based on aerial images.
    2. The starting time for the particles was 1970, ie. it was assumed PFAS was discharged from the Base and made it into the Lachlan Formation at the wetland about the time when Defence started using 3M Lightwater.
    3. The pathway for PFAS to enter the Lachlan Formation was downward from the wetland only. There was no downward migration from Marshalls Creek to the Lachlan Formation. No other areas of connectivity between Cowra and Lachlan. No pathway from existing bores.

  The model recommended the assumptions be tested and validated as part of the OMP. The results to date have indicated that while the underlying numerical modelling was sound, data from the new wells to the west of the wetland and along Copland Street indicate that downward migration to the Lachlan Formation may have occurred in a more extensive area than under assumption 1. The installation of additional monitoring wells near Marshalls Creek has also found that there is downward migration of PFAS to the Cowra and Upper Lachlan Formations from Marshalls Creek.
- The pathway of vertical migration from PFAS impacted surface water into the Cowra is likely to be variable, as evidenced in the variable geology already encountered at drilled locations during the East Wagga Well Installation program. The hydraulic connectivity/separation between the Cowra and Upper Lachlan is not well characterised in impacted areas. Further monitoring is required to refine the Conceptual Site Model in this area and it is therefore recommended that continuous water level loggers are relocated to target the new monitoring wells (and surrounding area in East Wagga, to assist in the understanding of hydraulic gradients between the RWCC extraction bores and the current network of groundwater wells in East Wagga.
- As noted above, since the completion of the groundwater model, additional groundwater wells have been installed, providing additional information that supports the proposition that Marshalls Creek may be acting as an additional secondary source of PFAS to groundwater, and that PFAS is present outside of the predicted plume extent provided in the Stage 1 Groundwater Model.
- The detections of PFAS in new monitoring wells (MW262, MW263 and MW264) in the north west portion of the Forge Street property are the closest detections of PFAS in groundwater to the RWCC East Wagga borefield to date (approximately 355m south of the borefield). PFAS was present in groundwater in all three targeted formations (Cowra, Upper Lachlan and Lower Lachlan) at this location with PFAS

concentrations decreasing with depth. These results are not are not indicative of a new PFAS primary source, but support the position of Marshalls Creek acting as a secondary source of PFAS contamination.

9.3 PFAS Receptors

No new receptors have been identified.

9.4 Updated conceptual site model

Based on the consideration within Sections 9.1 to 9.3, the previous CSM (Defence 2019b) has been updated. The new CSM is outlined in Sections 9.4.1 to 9.4.3.

9.4.1 PFAS source areas

Sources of PFAS contamination have been classified as either primary or secondary sources. Primary source areas are related to areas with historical usage or storage of figure-fighting foams containing PFAS as an active ingredient. Secondary sources areas are areas where PFAS has migrated to a location where is created a concentration of impact. A summary of the primary and secondary source areas, taking into account the findings from April 2024 and February 2025 sampling events, is shown in **Table 9-1** below.

Table 9-1: PFAS Source Areas

Primary Sources (on-base)
▪ Former fire training area near the eastern end of the runway (CSR_NSW_000921). ▪ Current Fire Station Washdown Bay (CSR_NSW_000924). ▪ Fire Extinguisher Concrete Pad (CSR_NSW_000893) and Former Fire Station Area. ▪ Aircraft Parking Area to the south of Building 88.
Primary Sources (off-base)
▪ Forest Hill Rural Fire Service
Secondary Sources
▪ Forest Hill Sewage Treatment Plan (STP) and associated ponds. ▪ Gumly Gumly Wetland. ▪ Marshalls Creek. ▪ Farm Dams.
Sources shaded purple above, represent a change from the previous CSM within the PMAP (Defence, 2019b)

As noted in Sections 3.2.1 and 9.4, remediation works at RAAF Base Wagga were completed in May 2025. Performance monitoring of the remediation works is currently underway and will be used to assess whether the remediation works were successful in removal of the PFAS sources from the Conceptual Site Model. As this has not been completed the Current Fire Station Washdown Bay (CSR_NSW_000924), Fire Extinguisher Concrete Pad (CSR_NSW_000893) and Former Fire Station Area, remain as Primary Sources pending the results of the remediation works performance monitoring.

9.4.2 PFAS pathways

Potential pathways for the migration of PFAS include the following:

- In-situ and laboratory leachability testing of soil on-base has identified the PFAS is readily leaching from soils into pore water and likely contributing to PFAS impacts being observed within perched groundwater.

However, perched water is discontinuous and therefore horizontal movement of PFAS in perched water in soil is not a significant pathway from the source areas.

- Surface water and stormwater drainage from the base is transported to the Gumly Gumly Wetland via an underground Council main from the base to Elizabeth Avenue and then via an open channel to the wetland.
- During periods of high rainfall, water from Gumly Gumly Wetland flows to Marshalls Creek (via an open drainage channel), which ultimately flows into the Murrumbidgee River. Since the completion of the Stage1 Groundwater Modelling conducted in 2018 (Jacobs, 2018b), 29 new groundwater wells have been installed as part of the PMAP and monitored as part of the OMP. Additional information gained through OMP sampling supports the position that Marshalls Creek may be acting as an additional secondary source of PFAS to groundwater, and that PFAS is present outside of the predicted extent of the plume in the Stage 1 Groundwater Model.
- Drainage to the east to Kyeamba Creek via a series of ephemeral dams; and drainage to the west to Gregadoo Creek via a series of ephemeral dams, have been identified as less significant pathways, with PFAS impact limited to farm dams and soil in close proximity to the base. Data collected during the OMP have confirmed that Kyeamba Creek is not a pathway for PFAS transport.
- There is some vertical migration of PFAS in groundwater from the Cowra Formation to the Lachlan Formation on-base, however, this is not considered to be a significant pathway due to the Cowra Formation in this area being dominated by dense high plasticity clays, which combined with the overall thickness of this formation, acts as an aquitard. However, geology at the Gumly Gumly Wetland includes more permeable soils, the Cowra Formation is less thick in the wetland area than on base and water level monitoring near the Murray Cod Hatcheries indicates connectivity between the Cowra and Lachlan Formations in this area. Groundwater in the Lachlan Formation has been identified as impacted with PFAS within the vicinity of the Gumly Gumly Wetland. During the installation of new monitoring wells in East Wagga (further to the west of the Gumly Gumly Wetland) the drilling logs present a variable interface between the Cowra and Upper Lachlan Formation, where a confining layer was not always present and transitioned between the two formations, or had a vary narrow clay lens (between 0.25m and 0.7m thick), that may not be continuous. Distinct confining layers of high plasticity clay (greater than 3m thick, and therefore more likely to be continuous) were observed between the Upper Lachlan and Lower Lachlan formations, during drilling works in East Wagga, closer to Marshalls Creek.
- Migration of PFAS impacts from source areas into the on-base sewers and subsequent transport to the Forest Hill STP.
- Based on a review of historical aerial images, it has been identified that drainage works associated with Council taxiway upgrade on the airport (in 2021), has resulted in some runoff from the fire training pad area (adjacent the runway, CSR_NSW_000921) to the south east culvert (Catchment 4). As noted in the PFAS Mass Flux Study (refer to Section 3.1.1), that was conducted after Taxiway construction was finished by Council, found that PFAS contribution from Catchment 4 to overall mass flux from base was low.

The primary pathway for PFAS migration from source to receptors at the base remains the same as what was noted in the PMAP (i.e., primarily via surface water/sewer) (Defence, 2019b). The previous OMR's (Cardno 2021c, Cardno 2024d) raised the possibility that Marshalls Creek could periodically contribute to PFAS in groundwater. The installation of new groundwater monitoring wells since July 2023 appears to support this understanding that Marshalls Creek is acting as a secondary source. In addition the underlying geology near to Marshalls Creek, appears to have some hydraulic connection between the Cowra and Upper Lachlan formations, allowing greater vertical mixing of groundwater between the formations. While PFAS has been detected in groundwater close to the RWCC East Wagga bore field, there have not been detections of PFAS above the drinking water guidelines in any of the bores used for extraction of groundwater for drinking purposes. The pathway from the Gumly Gumly Wetland and Marshalls Creek to the RWCC network, is therefore not complete, but does need continued monitoring.

Remediation works at the former fire station and surrounding areas were completed in May 2025. These works included the removal of redundant sewer lines and re-lining of sewer pipes that are to be retained in

the area surrounding primary sources Current Fire Station Washdown Bay (CSR_NSW_000924), Fire Extinguisher Concrete Pad (CSR_NSW_000893) and Former Fire Station Area. In addition stormwater pipes have been removed and replaced in this area too. It is expected that the removal (or repair) of this infrastructure will remove a pathway for the migration of PFAS from this primary contamination source on site. At the time of writing the OMR the performance monitoring of the remediation works was commenced, but not completed. Future reporting will provide an update on the performance of the remediation works.

9.4.3 PFAS receptors

Receptors of PFAS within the on-base management area and off-base monitoring areas identified in the DSI and HHERA remain unchanged. The receptors are summarised in **Table 9-2** below.

Table 9-2: PFAS receptors within the management and monitoring areas.

On-base receptors	Off-base receptors
▪ Construction and maintenance workers at the base. ▪ Adults living or working on base (no children are present for extended periods). ▪ Recreational adult users of base open space and sporting facilities (i.e. golf course and sporting fields). ▪ Terrestrial flora and fauna. ▪ Aquatic organisms in surface water bodies (limited to drainage channel and dam in airport area).	▪ Livestock with access to water along drainage pathways (Gumly Gumly Wetlands and Marshalls Creek, Kyeamba Creek and Gregadoo Creek). ▪ Consumers of home-slaughtered livestock with access to PFAS impacted surface water or consumers of home-produced food using PFAS impacted surface water or soil (not currently known to occur). ▪ Terrestrial and aquatic fauna and flora, in particular within Gumly Gumly Wetlands and Murray Cod Hatcheries (aquatic). ▪ Consumers of certain fish and yabbies sourced from local waterways around the base. ▪ Groundwater users in surrounding properties and the RWCC East Wagga Borefield (no current PFAS above drinking water guidelines). ▪ Consumers of crops irrigated by treated effluent (not currently known to occur). The HHERA also identified irrigation of land close to Kyeamba Creek could present an unacceptable risk to aquatic ecology in the creek. ▪ Recreational users of surface waters receiving run-off from the base.

Figure 9-1. Conceptual Site Model A

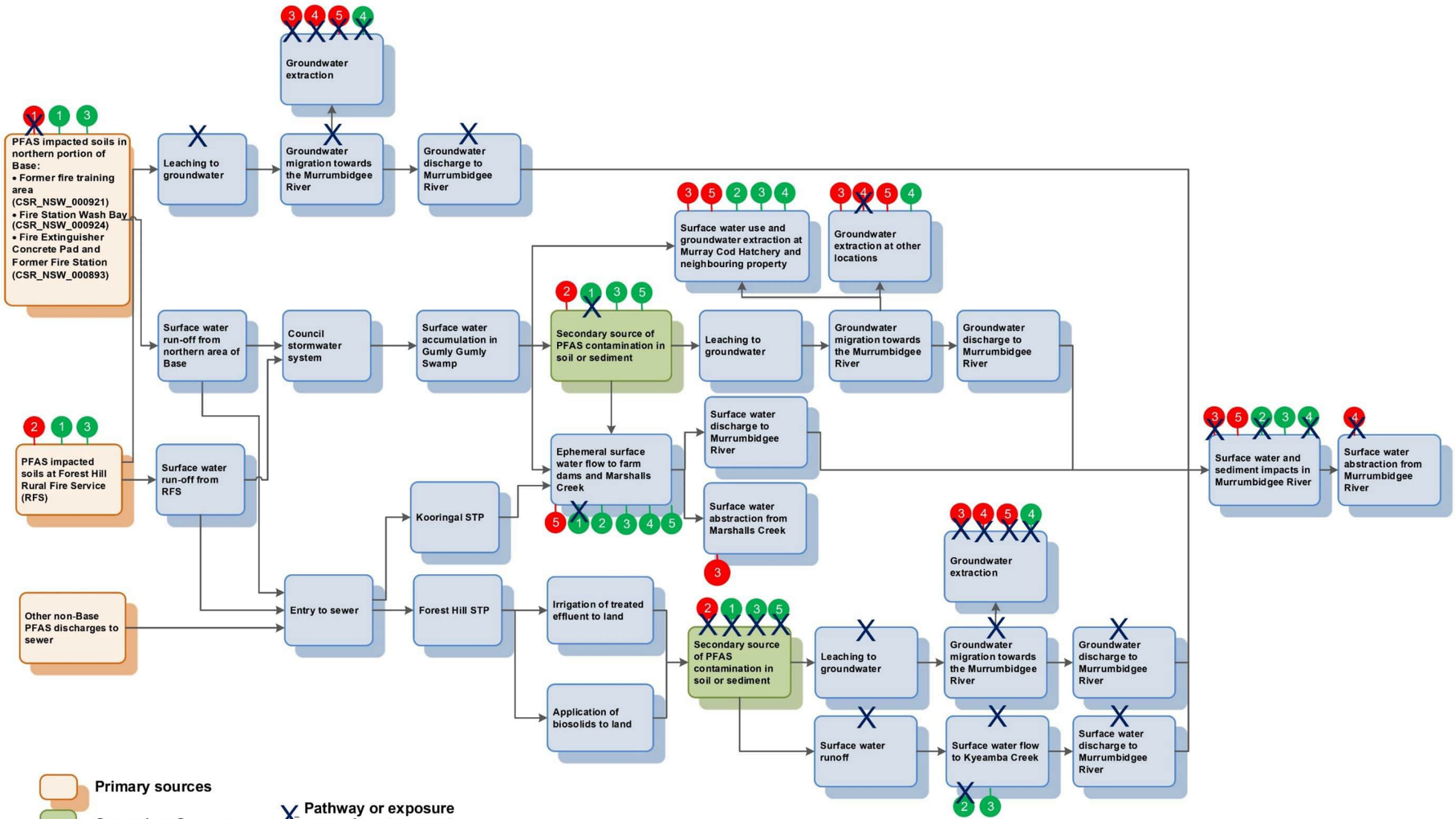
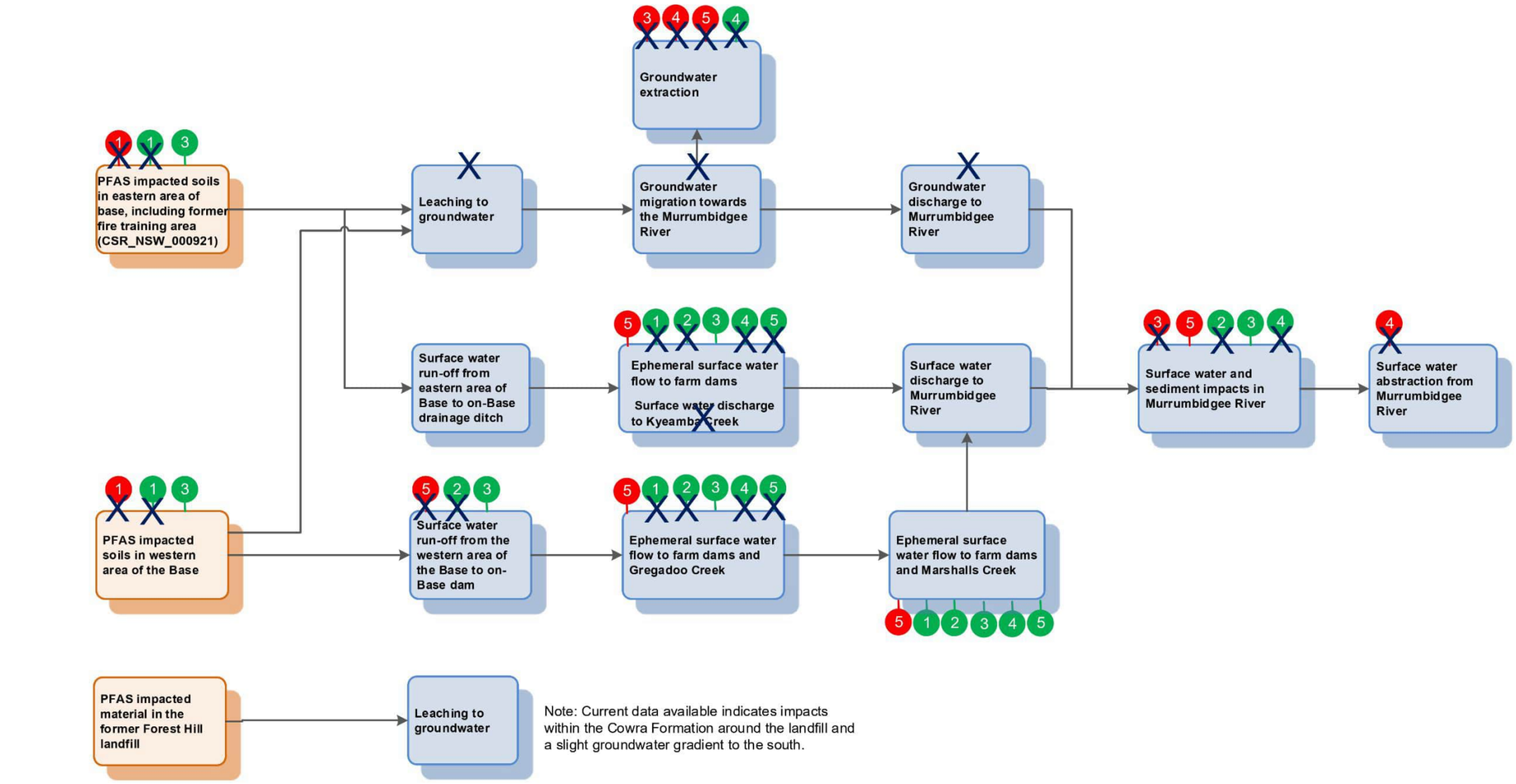


Figure 9-2. Conceptual Site Model B



10. Risk profile

The HHERA (EnRiskS, 2018) assessed the potential human health and environmental risks resulting from exposure to base derived PFAS in soil, groundwater, surface water and sediment.

10.1 Human health risk assessment

The exposure pathways where potential human health risks were identified as elevated in the HHERA (EnRiskS, 2018) and DSI (Jacobs, 2018) were as follows:

- High consumption of certain fish and yabbies sourced from local waterways around the base.
- Potential future risks if residents at certain properties commence home consumption of food produced with PFAS impacted water or soil.
- Potential risks if PFAS impacted groundwater is used for drinking water or home food production in the future.
- Potential risk to groundwater users due to PFAS migration in the future.

No new exceedances of human health criteria were observed during the monitoring period. New maximums were reported for PFOS at MW253 (April 2024) and MW248 (February 2025), and new maximums for PFHxS+PFOS at MW253 (April 2024), MW248 (February 2025) and MW311 (February 2025) during the monitoring period, however, concentrations were within the same order of magnitude as the previous historical maximum.

Increasing trends for PFOA were identified at location MW253 and MW254, increasing PFOS trends at MW253, MW254, MW259 and MW300, and increasing PFHxS trends at MW248, and MW300.

The updated ADWG 2025 guidelines now include a drinking water guideline for PFBS which was not considered during previous sampling events. Increasing trends for PFBS were identified at MW253, MW259, MW300 and MW311, however there were no exceedances of the adopted assessment criteria for PFBS in either the groundwater or surface water locations during the OMR period.

Twelve new groundwater monitoring wells were installed between July 2023 and February 2025 in the East Wagga area. Due to the lack of historical data at the new monitoring locations, no trends were identified in these locations. The results in the twelve locations (MW258, MW259 and MW261 to MW270), reported five exceedances of the drinking water guidelines for PFHxS (two in the Cowra and three in the Upper Lachlan) and seven exceedances of the PFOS guidelines (three in the Cowra, three in the Upper Lachlan and one in the Lower Lachlan). The closest exceedances of the drinking water guidelines to the RWCC extraction bores were from the Cowra and Upper Lachlan formation (MW262 and MW263 respectively) that are located (approximately 355m south of the bore field).

No samples from the new monitoring wells exceeded the drinking water guidelines for PFBS or PFOA.

The Stage 1 groundwater model developed as part of the PFAS investigation at the base indicated that PFAS in groundwater from the Gumly Gumly Wetland may reach the RWCC East Wagga Borefield in 55 years from the date of the model report (2018). Additional groundwater monitoring wells were installed between the wetland and Marshalls Creek to validate key assumptions in the model. This has identified that PFAS impacts in groundwater are closer to the RWCC East Wagga borefield than previously understood. This is unlikely to be due to PFAS moving faster than predicted in the model. It is due to PFAS entering the Lachlan Formation in a more extensive area than assumed in the model and the movement of PFAS from Marshalls Creek downwards to the Upper Lachlan Formation. This movement was assumed not to be occurring in the model.

Therefore, the data that has been collected during the OMR does not change the overall risk profile identified within the HHERA. The presence of PFAS in groundwater within the Lachlan formations closer to the RWCC East Wagga borefield than previously anticipated, and the influence of Marshalls Creek in the migration of PFAS towards East Wagga changes the findings of the Stage 1 groundwater model with respect to future risks

to the RWCC East Wagga borefield, including the potential for PFAS impacts to the water supply bores occurring sooner than initially predicted.

10.2 Ecological risk assessment

The exposure pathways where potential ecological risks were identified as elevated in the HHERA (EnRiskS, 2018) were as follows:

- Direct toxicity to aquatic ecology at farm dams in the Gumly Gumly Wetland and Marshalls Creek.
- Effects on terrestrial or aquatic ecology due to bioaccumulation in higher order consumers at various off-base locations.
- Discharge of treated effluent from the Forest Hill Sewage Treatment Plant to land. This would present an elevated risk to ecological receptors if treated effluent is applied to land and allowed to runoff to Kyeamba Creek. This does not currently occur. Treated effluent at the sewage treatment plant is allowed to evaporate from the treatment ponds at the plant.

Data collected during the OMR period does not indicate any change in risk profile to ecological receptors.

11. Conclusions

Groundwater and surface water sampling was undertaken between April 2024 and February 2025 as part of the OMP, and results from the monitoring were reported and discussed in this OMR. The following conclusions are based on the data collected during the monitoring period and the objectives of the monitoring as stated within the OMP and included in Section 1.2.

11.1 Objective 1: To evaluate the spatial and temporal (including seasonal) variability of PFAS in the environment.

Overall, the PFAS concentrations in groundwater and surface water reported during the April 2024 and February 2025 sampling events were generally within historical ranges, with a few exceptions.

11.1.1 Groundwater

- Increasing trends in recent sampling were identified from the Mann-Kendall assessment at six monitoring wells, located at the base boundary (MW300, and MW311) and down-gradient of the Gumly Gumly Wetland (MW248, MW253, MW254 and MW259). Where concentrations are at or below the applicable guideline, the increasing trend is of less concern and risk to the surrounding community. In addition, where an increasing trend has been identified by the statistical assessment, but the results within the current monitoring period are reducing from a historical maximum concentration, the risk posed by the increasing trend are expected to be less to the community or surrounding environment. Two exceptions to these conditions were observed as follows:
  - MW248 identified an increasing trend of PFHxS. The February 2025 result was a new maximum concentration at this location and exceeded both the human health (drinking water) and ecological criteria. The well targets the Cowra Formation and is located alongside Marshalls Creek; downstream of the confluence of the drain connecting Marshalls Creek and the Gumly Gumly Wetland, and the drain connecting Marshalls Creek to Lake Albert, where the Kooringal STP is located. The location of this well and the concentration in the Cowra formation support the proposition that Marshalls Creek is acting as a secondary source of PFAS contamination to groundwater.
  - An increasing trend for PFOS was identified in MW253, which targets the Lower Lachlan Formation. MW253 is located adjacent to an open drain the discharges to the drain connecting Marshalls Creek and the Gumly Gumly Wetland. The PFOS concentration during the April 2024 event exceeded the drinking water guideline, but was detected below the guideline during the February 2025 event.
- Concentrations were above the new NHMRC drinking water guideline values for both PFOS and PFHxS in 28 wells (across both the April 2024 and February 2025 events). The wells were located at the base boundary, in the Gumly Gumly Wetland and downgradient of the Gumly Gumly Wetland. In addition, 7 locations within the Gumly Gumly Wetland and downgradient of the Gumly Gumly Wetland also exceeded the ecological guideline values for PFOS.
- The highest PFOS concentrations were detected adjacent to Marshalls Creek (MW253, April 2024) within the Cowra Formation. The highest PFHxS concentration was detected within the Cowra Formation in the new well between Marshalls Creek and RWCC extraction bore (MW262, February 2025).
- Following the installation of new monitoring wells in East Wagga in 2024, the extent of PFAS impacts has been shown to be closer to the RWCC East Wagga water supply bores than was previously understood. The PFAS detected in new wells MW262 to MW265, approx. 350m from East Wagga bore 2, MW212) is currently thought to have migrated to this location via Marshalls Creek.
- A review of the groundwater data has shown very limited seasonal influence on the PFAS concentrations in groundwater. The network of dataloggers also shows very little seasonal influence on PFAS concentrations with the exception of MW215 that shows fluctuations over the summer period, which appear to correlate with Defence extracting water from the adjacent irrigation bore.

- There were no exceedances of the drinking water guidelines for PFOA and PFBS.
- PFAS concentrations in all drinking water supply bores were found to be below the laboratory LOR in both events.

11.1.2 Surface water

- The Mann-Kendall assessment did not identify any increasing trends of PFAS concentrations in surface water.
- Concentrations were above the new NHMRC drinking water guideline values for both PFHxS and PFOS in 11 surface water locations (across both the April 2024 and February 2025 events). The exceedances were observed at the base boundary, in Marshalls Creek and at the Forest Hill STP. In addition, 9 samples from the base boundary and drainage line, Marshalls Creek and Forest Hill STP also exceeded the ecological guideline values for PFOS.
- There were no exceedances of the drinking water guidelines for PFOA and PFBS.
- There were no exceedances of recreational water guidelines for surface waters during the OMR monitoring period.
- Samples from the Murrumbidgee River had PFAS concentrations below the laboratory LOR during both sampling events.
- The surface water results in the current OMR (from April 2024 and February 2025) are consistent or lower than previous data and align with expectations of the current CSM.

11.2 Objective 2: To identify any changes to the Conceptual Site Model (sources, transport pathways and/or receptors)

11.2.1 PFAS Source Areas

Remediation works at RAAF Base Wagga were completed in May 2025. The works included the excavation and removal of PFAS impacted soils from the Fire Extinguisher Concrete Pad (CSR_NSW_000893) and Former Fire Station Area. In addition, the oil water separator near the Fire Station was replaced, a concrete sealant was applied to the surface of Fire Station Washdown Bay (CSR_NSW_000924), and stormwater and sewer utilities have been removed, repaired, or replaced in the area surrounding these primary PFAS sources.

While the remediation works have been completed, the performance monitoring is still underway. Until the monitoring has determined the effectiveness of source or pathway removal, the source/pathway has been retained as potential contributors within the Conceptual Site Model. It is expected that this will be able to be updated in the next OMR.

The installation of additional groundwater monitoring wells in East Wagga and additional monitoring data collected under the OMP has improved understanding of geology and PFAS impacts in East Wagga. PFAS in groundwater within the Lachlan Formation extends further west of the Gumly Gumly Wetland than identified in the DSI. Marshalls Creek is acting a source of PFAS movement to groundwater in the Cowra and Upper Lachlan Formations.

Data collected during the OMP and information provided on the Rural Fire Service website indicates that the Forest Hill Rural Fire Station is a source of PFAS to surface water in the Gumly Gumly Wetland. This has been updated in the CSM.

11.2.2 PFAS Pathways

The CSM currently assumes no movement of PFAS to the Lachlan Formation groundwater on base however PFAS has been detected in some samples from wells installed with screens in this formation. Recent PFAS

concentrations have declined and PFAS has not been detected in monitoring well MW246 which is screened in the Lachlan Formation and is downgradient of the base. Therefore, the CSM has not been updated to note this pathway at this stage. This will be reviewed as further OMP data are collected.

11.2.3 PFAS Receptors

No change to the understanding of PFAS receptors around the base.

11.3 Objective 3: To evaluate whether risks to human and ecological receptors require review

Defence has changed the PFAS analysis to low level LOR for groundwater samples and surface water samples collected from the Murrumbidgee River in order to be able to compare concentrations to the new NHMRC guideline values for drinking water. The use of the lower PFAS LOR's was applied during the February 2025 sampling event and exceedances of the new guidelines were detected in the co-located well sets closest to the RWCC East Wagga Borefield. The exceedances were detected within:

- PFOS and PFHxS both exceed new NHMRC drinking criteria in MW262 (Cowra) approximately 350m south east.
- PFOS and PFHxS both exceed new NHMRC drinking criteria within MW263 (Upper Lachlan) approximately 350m south east.
- PFOS exceed new NHMRC drinking criteria within MW250 (Cowra) approx. 380m east.

The RWCC East Wagga Bore 1 is screened within the Lower Lachlan Formation, however it is noted that during the construction of the bore, a bentonite seal was not installed within the annulus of the bore, and it is gravel packed through the Cowra and Upper Lachlan formations allowing the potential for vertical migration between formations. There are currently no PFAS detections exceeding laboratory LOR (using the low level LORs) in the samples from the RWCC East Wagga bores.

As discussed above the recent investigations adjacent to Marshalls Creek supports the concept that Marshalls Creek is a contributor to PFAS concentrations in the Lachlan Formation away from the Gumly Gumly Wetland. Given there is only initial samples within the new wells however, further monitoring is required to confirm this concept.

The presence of PFAS in the Lachlan Formation in East Wagga indicates that PFAS may reach the RWCC East Wagga supply bores sooner than initially predicted using the Stage 1 groundwater model developed during the PFAS investigation at the base. This is due to an improved understanding of PFAS presence mechanisms in East Wagga following the installation of new monitoring wells, rather than faster movement of PFAS in groundwater from the Gumly Gumly Wetland.

While the detections are closer to the RWCC East Wagga supply bores than previously understood, the risk level profile within the PMAP has not changed and review of the risks to human or ecological receptors is not required at this time.

11.4 Objective 4: To evaluate the influence that risk management activities (e.g., remediation), have had on PFAS in the environment

Remediation works at RAAF Base Wagga were completed after the latest OMP sampling event in May 2025. Performance monitoring of the remediation works has commenced, but has not been completed. It is expected that the removal of 1,330 tonnes of PFAS impacted soils and repairs/replacement of stormwater and sewer pipework will reduce the PFAS moving from RAAF Base Wagga. The results of the performance monitoring and the influence of the remediation works, will be updated within the next OMR.

11.5 Objective 5: To determine whether any identified changes trigger an action or review

No changes to the overall risk profile have been identified to date. As noted previously, there is a risk that PFAS may reach the RWCC East Wagga borefield sooner than initially predicted. Defence is working with RWCC and relevant government agencies to manage this risk.

The release of the new NHMRC drinking water guidelines in June 2025, has required the sampling program to adopt lower LOR's for analysis of all groundwater samples and surface water samples from the Murrumbidgee River in order to enable assessment against the new lower criteria. The application of lower LORs for this sampling will continue in future OMP sampling events and this will be acknowledged in the next update to the OMP.

The RAAF Base Wagga monitoring network is spread across a large area including some locations that do not appear to be impacted by significant PFAS concentrations, as shown in the historic OMP results. Some locations, such as the groundwater monitoring wells east of the base, were installed to investigate specific uncertainties remaining after the DSI and HHERA. Now that the OMP has investigated these uncertainties and the results appear to show no significant PFAS concentrations, it is recommended that a review of the OMP is completed to ensure the monitoring is targeting areas of greatest risks.

11.6 Next steps

Remediation of the key PFAS sources on base that were contributing to off-base movement of PFAS has been completed. Ongoing management of PFAS at the base can occur through Defence's routine environmental management processes including the PFAS Construction and Maintenance Framework (Defence, 2025). The OMP includes triggers for a review of risks and the potential implementation of management actions both on-base and off-base where changes to the risk profile occurs.

The following actions will be required to continue to monitor and manage PFAS originating from RAAF Base Wagga outside of the base:

- A review of the OMP sampling locations and frequency will be undertaken to ensure monitoring targets areas of highest risk and continues to meet the overall objectives of the OMP.
- The revised OMP will be implemented. Data will continue to be shared with RWCC and NSW agencies. OMRs will continue to be made publicly available through Defence's website.
- Defence will continue to co-operate with RWCC and NSW agencies to manage PFAS risks to water supplies in Wagga Wagga.

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Appendix A. Figures

Figure A-1. Site Location Plan

Figure A-2. PFAS Sources and Management Areas Location Plan

Figure A-3. Groundwater Monitoring Locations Plan

Figure A-4. Surface Water Monitoring Locations Plan

Figure A-5. Inferred Groundwater Contours (Cowra) (February 2025)

Figure A-6. Inferred Groundwater Contours (Upper Lachlan) (February 2025)

Figure A-7. Inferred Groundwater Contours (Lower Lachlan) (February 2025)

Figure A-8. PFOS Concentration Distribution – Groundwater (Cowra) (February 2025)

Figure A-9. PFOS Concentration Distribution – Groundwater (Upper Lachlan) (February 2025)

Figure A-10. PFOS Concentration Distribution – Groundwater (Lower Lachlan) (February 2025)

Figure A-11. PFOA Concentration Distribution – Groundwater (Cowra) (February 2025)

Figure A-12. PFOA Concentration Distribution – Groundwater (Upper Lachlan) (February 2025)

Figure A-13. PFOA Concentration Distribution – Groundwater (Lower Lachlan) (February 2025)

Figure A-14. PFHxS Concentration Distribution – Groundwater (Cowra) (February 2025)

Figure A-15. PFHxS Concentration Distribution – Groundwater (Upper Lachlan) (February 2025)

Figure A-16. PFHxS Concentration Distribution – Groundwater (Lower Lachlan) (February 2025)

Figure A-17. PFOS+PFHxS Concentration Distribution – Groundwater (Cowra) (February 2025)

Figure A-18. PFOS+PFHxS Concentration Distribution – Groundwater (Upper Lachlan) (February 2025)

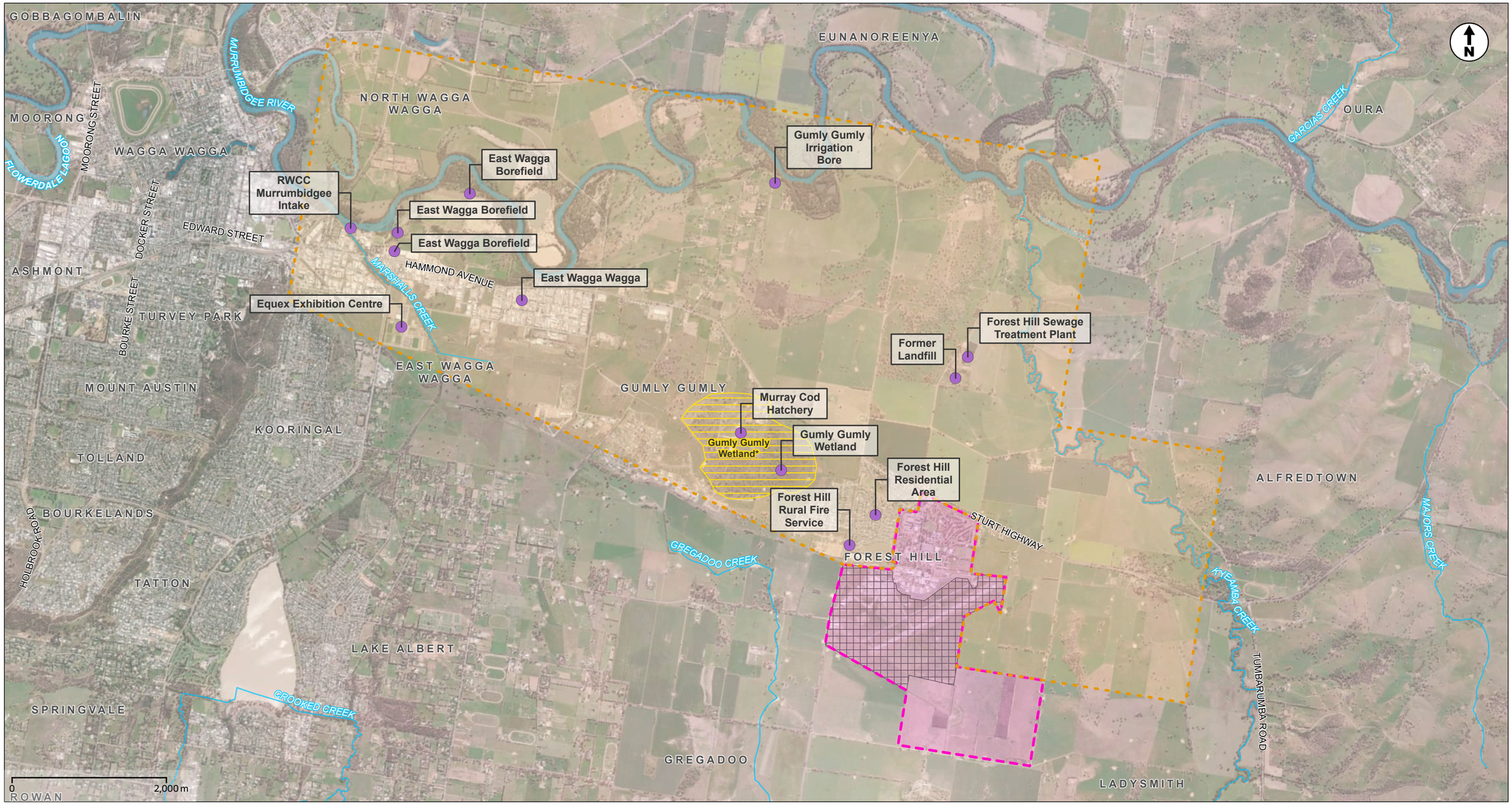
Figure A-19. PFOS+PFHxS Concentration Distribution – Groundwater (Lower Lachlan) (February 2025)

Figure A-20. PFOS Concentration Distribution – Surface Water (February 2025)

Figure A-21. PFOA Concentration Distribution – Surface Water (February 2025)

Figure A-22. PFHxS Concentration Distribution – Surface Water (February 2025)

Figure A-23. PFOS+PFHxS Concentration Distribution – Surface Water (February 2025)

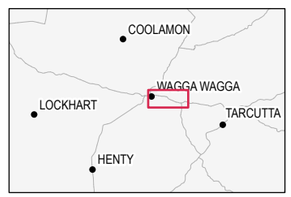


Legend

Monitoring Area
- On-base Management Area
- Off-base Monitoring Area

City of Wagga Wagga Council Lease Area
Point of interest

Watercourse
Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-1: RAAF Base Wagga, Site Locality Plan

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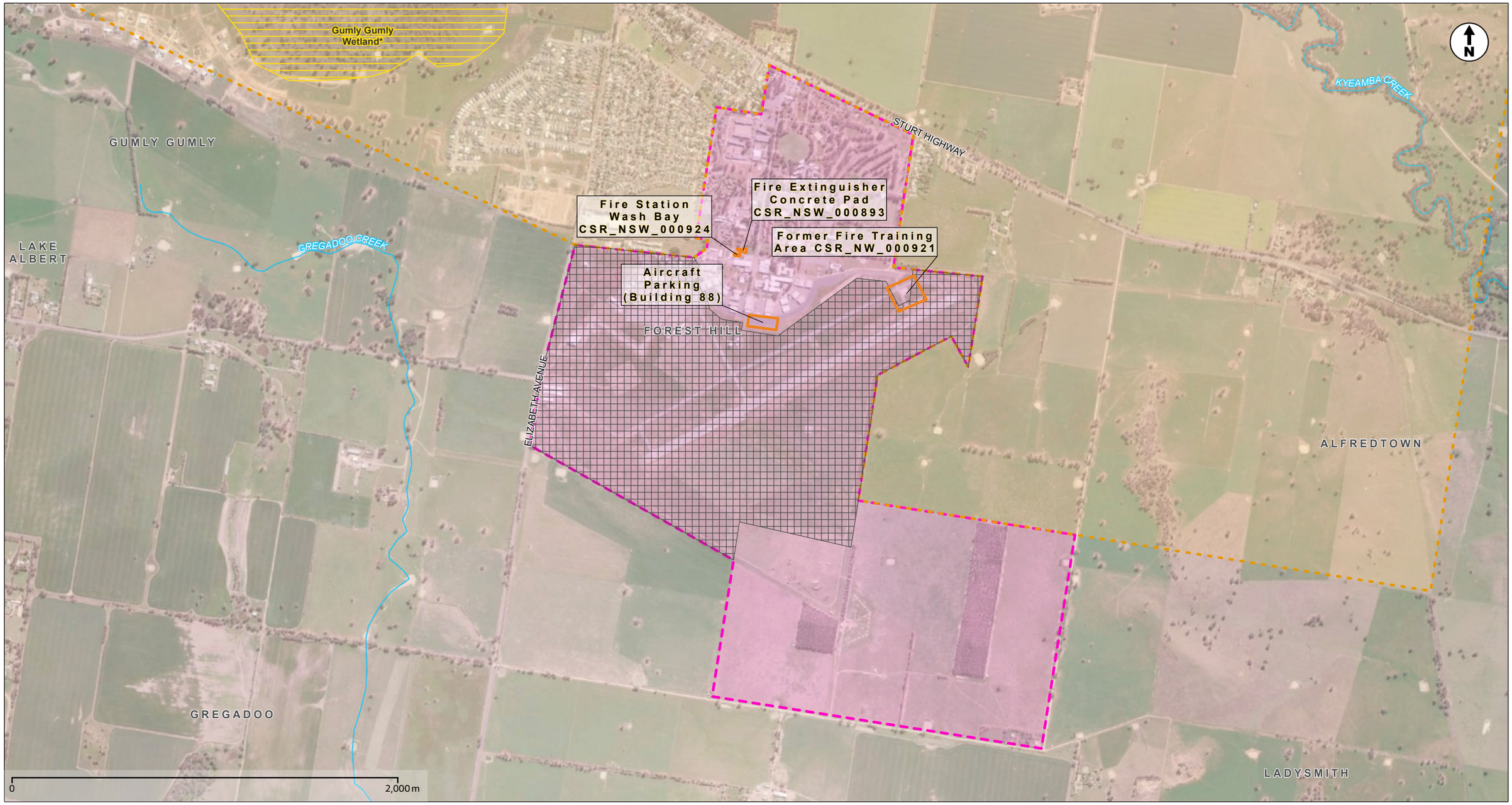

Legend

Monitoring Area
- On-base Management Area
- Off-base Monitoring Area

- Potential Source Area
- City of Wagga Wagga Council Lease Area

- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

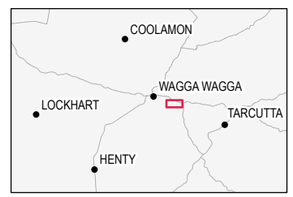

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Figure A-2: RAAF Base Wagga, Site PFAS Sources and Management Areas

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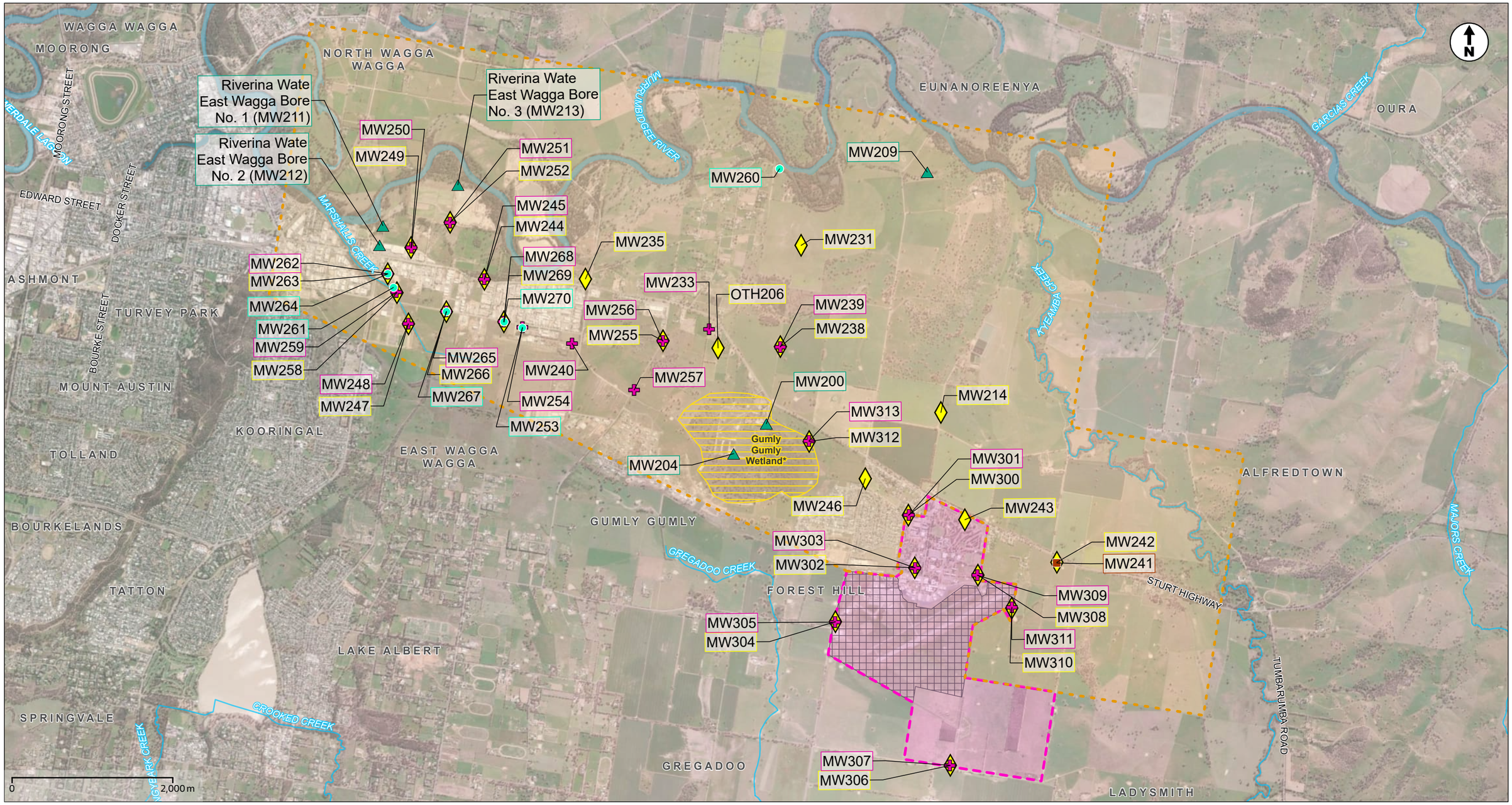

Legend

Groundwater Monitoring Wells

- Groundwater Lachlan (Cowra)
- Groundwater Lachlan (Upper formation)
- Groundwater Lachlan (Lower formation)
- Wantabadgery Granite
- Other [1]

[1] *Wells labelled as "other" were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.*

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area

- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

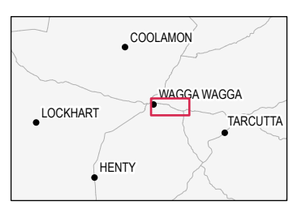

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Figure A-3: Groundwater Monitoring Network

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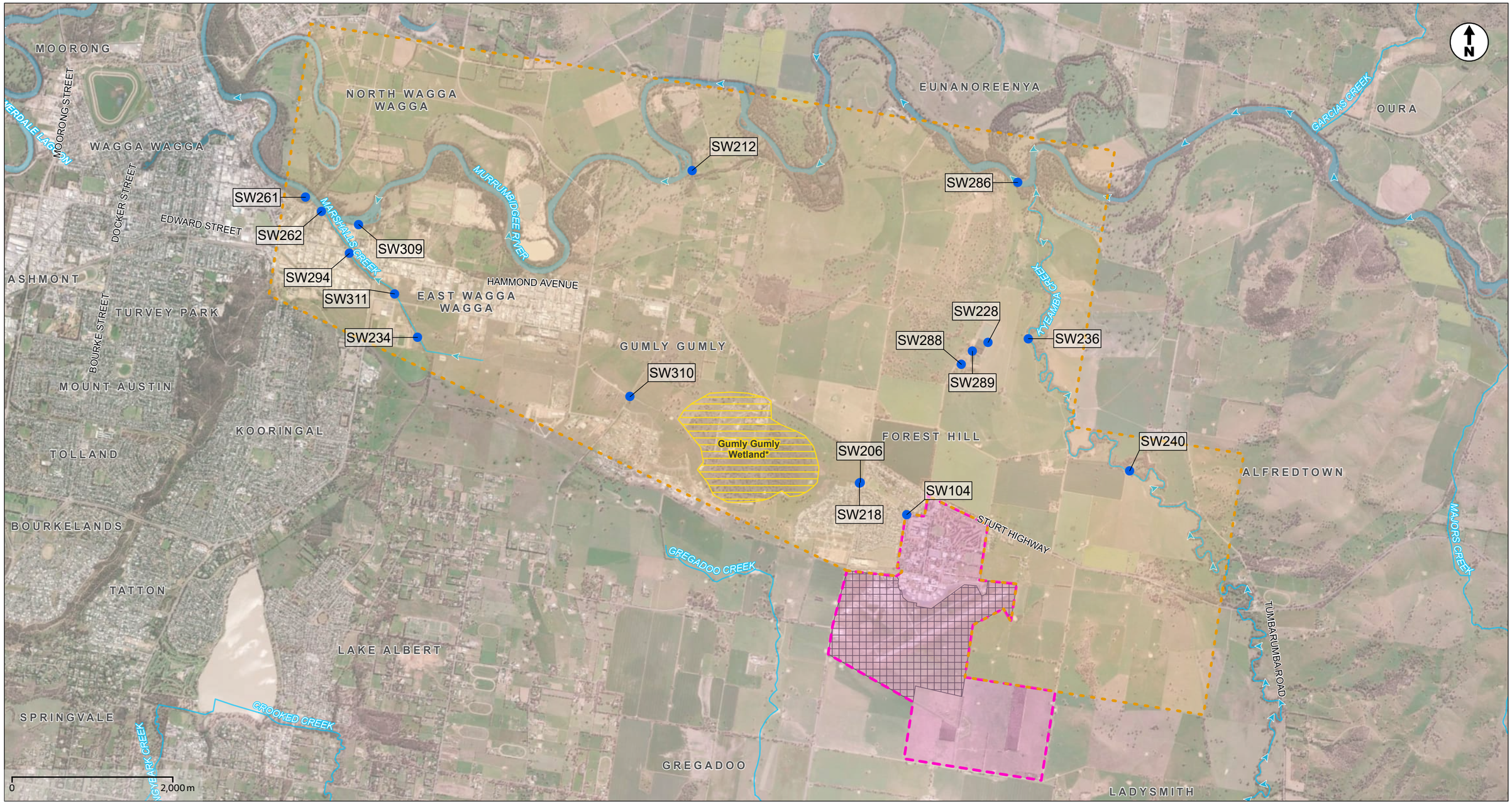

Legend

- Surface Water Monitoring Locations

Monitoring Area
- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site
- City of Wagga Wagga Council Lease Area

- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

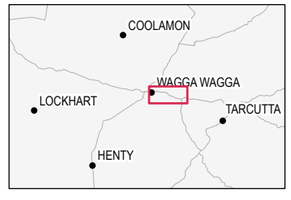

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Figure A-4: Surface Water Monitoring Network

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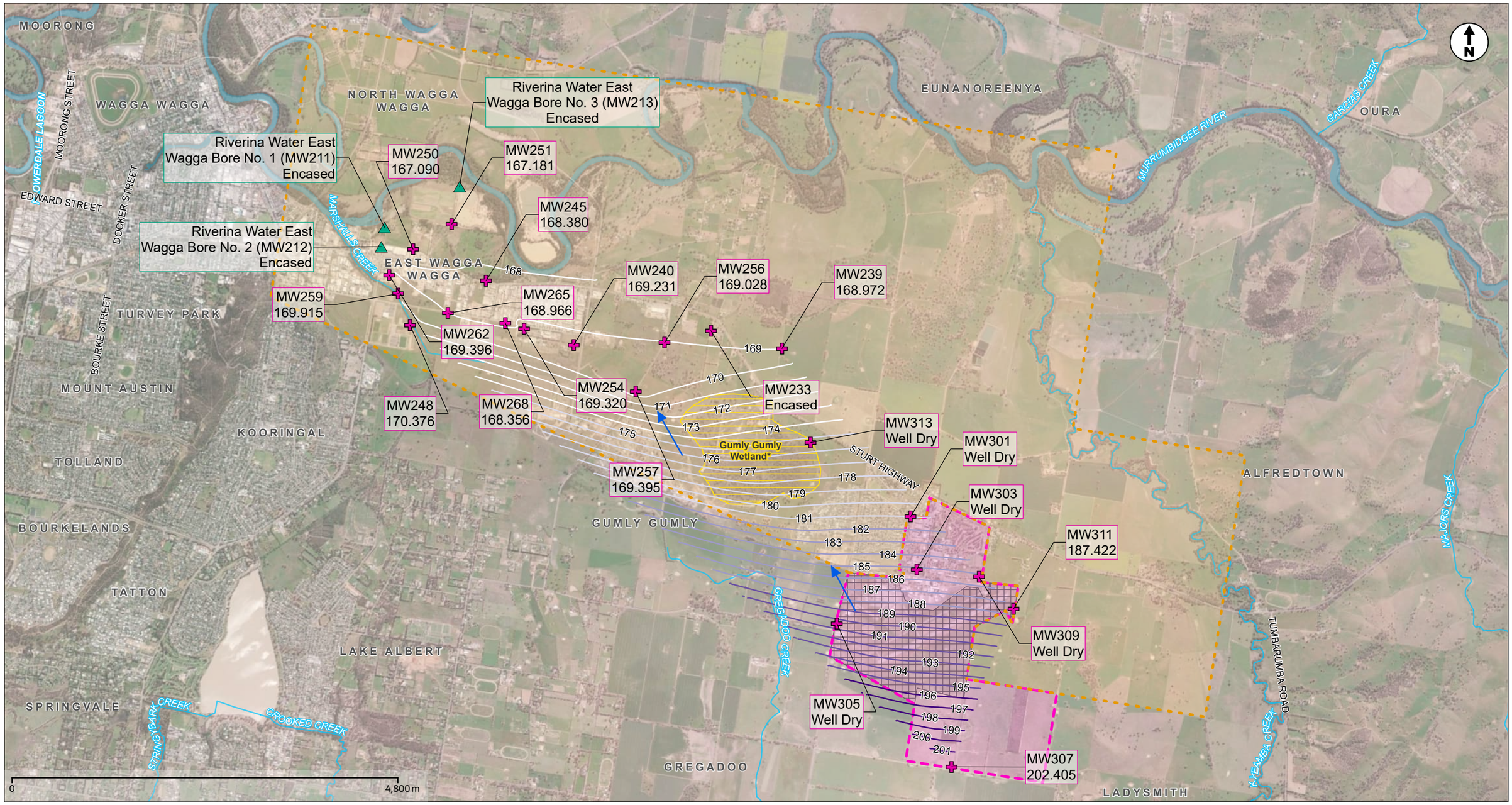

Legend

Groundwater Monitoring Wells

- Groundwater Lachlan (Cowra) — *Measured elevation (m) has been shown for the wells for which the measurement was possible*
- Other [1] — *[1]Wells labelled as "other" were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.*

Groundwater Contours (mAHD)

- 168 - 174
- 175 - 181
- 182 - 188
- 189 - 195
- 196 - 202
- Groundwater flow direction

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

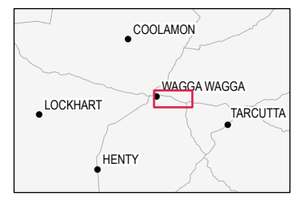

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Figure A-5: Inferred Groundwater Contours (Cowra) (Feb 2025)

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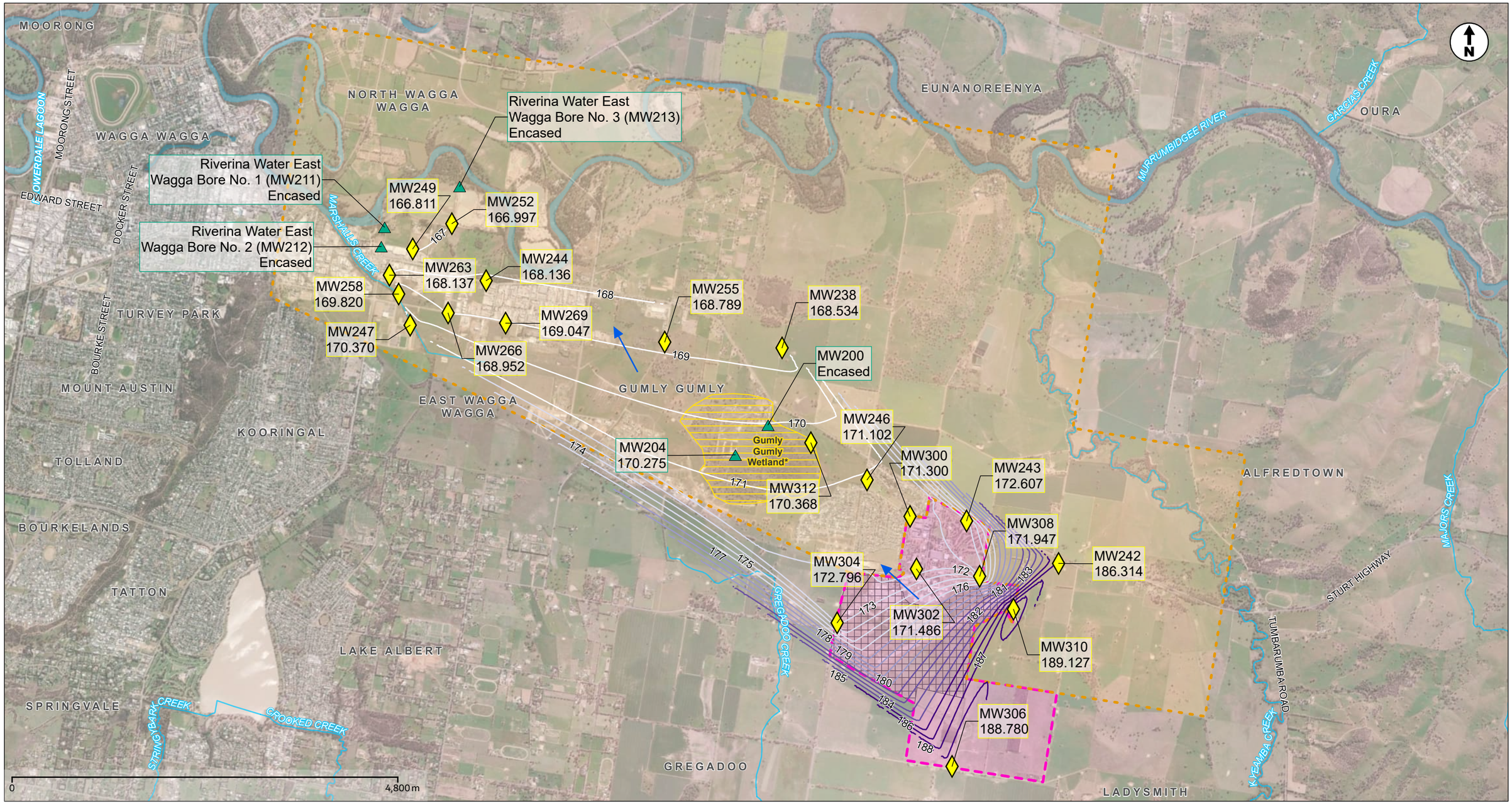


Legend

Groundwater Monitoring Wells

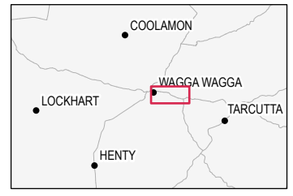
- Groundwater Lachlan (Upper formation) — *Measured elevation (m) has been shown for the wells for which the measurement was possible*

Contour

- 167 - 171
- 172 - 176
- 177 - 180
- 181 - 184
- 185 - 188
- Groundwater flow direction

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-6: Inferred Groundwater Contours (Upper Lachlan) (Feb 2025)

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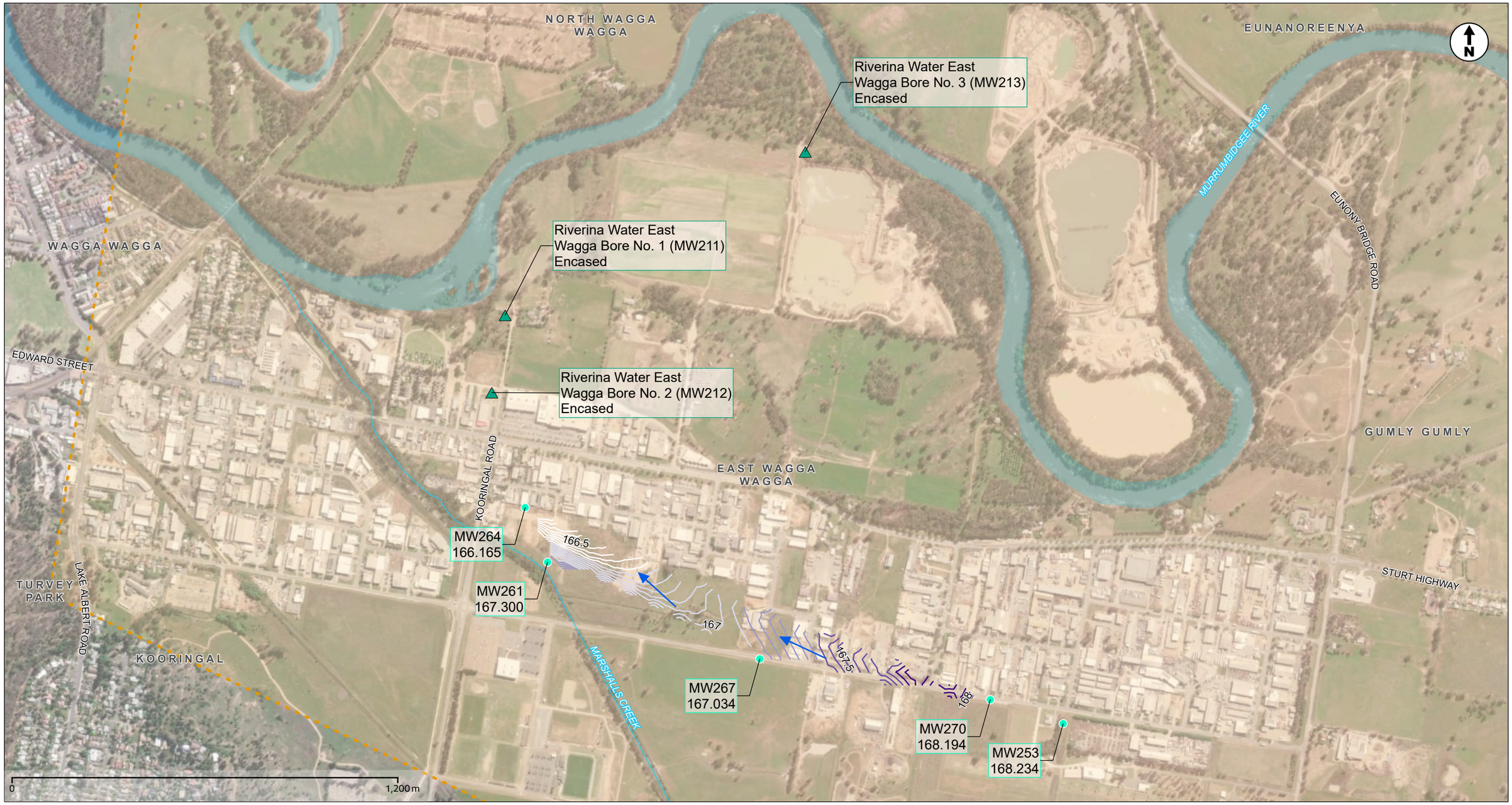


Legend

Groundwater Monitoring Wells

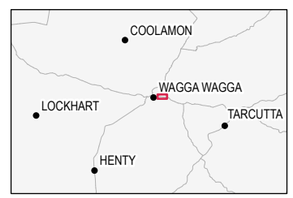
- Groundwater Lachlan (Lower formation) — *Measured elevation (m) has been shown for the wells for which the measurement was possible*
- Other [1] — *[1]Wells labelled as "other" were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.*

Groundwater Contours (mAHD)

- 166 - 167
- 168 - 167
- 168 - 167
- 168 - 168
- 169 - 168
- Groundwater flow direction

Monitoring Area

- Off-base Monitoring Area
- Watercourse



Scale: 1:12,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-7: Inferred Groundwater Contours (Lower Lachlan) (Feb 2025)

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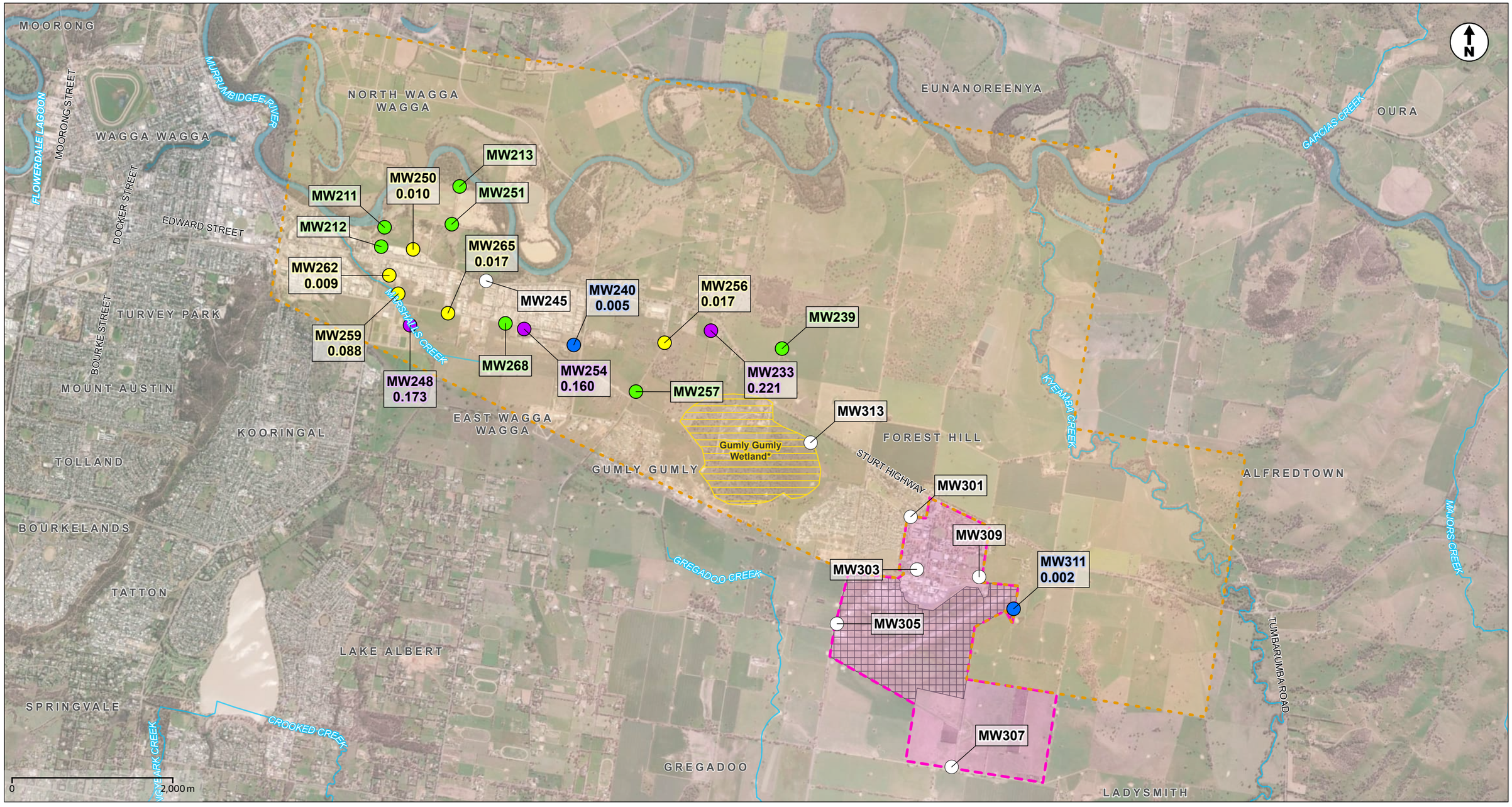


Legend

Groundwater samples (result units are in µg/L)

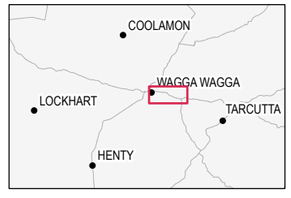
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	**<0.002**	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-8: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS - (Cowra)

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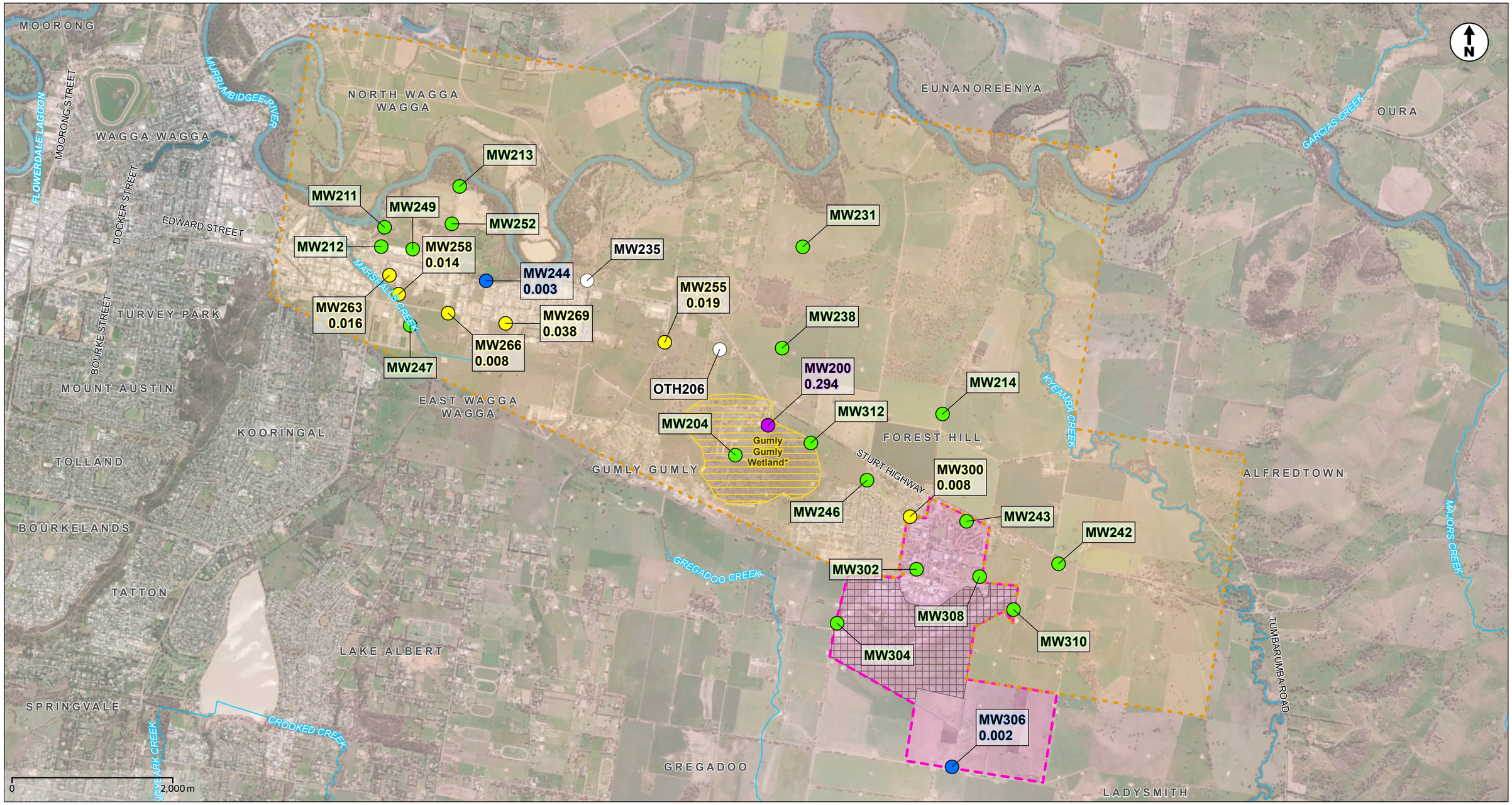


Legend

Groundwater samples (result units are in µg/L)

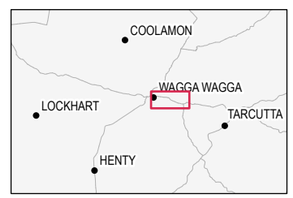
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-9: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS - (Upper Lachlan)

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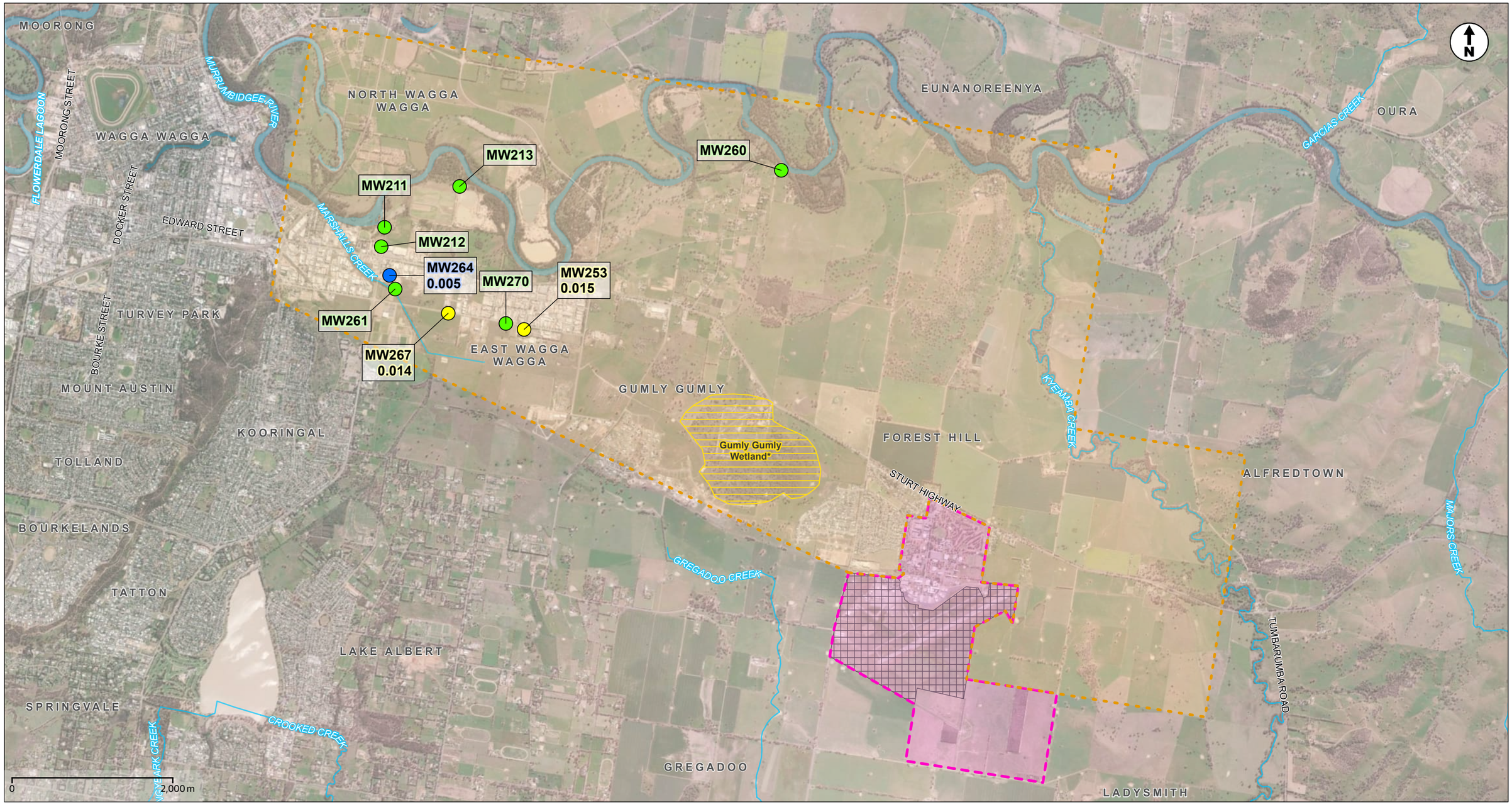


Legend

Groundwater samples (result units are in µg/L)

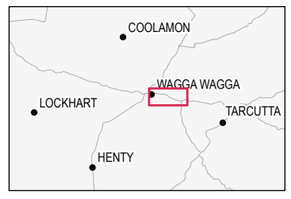
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-10: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS - (Lower Lachlan)

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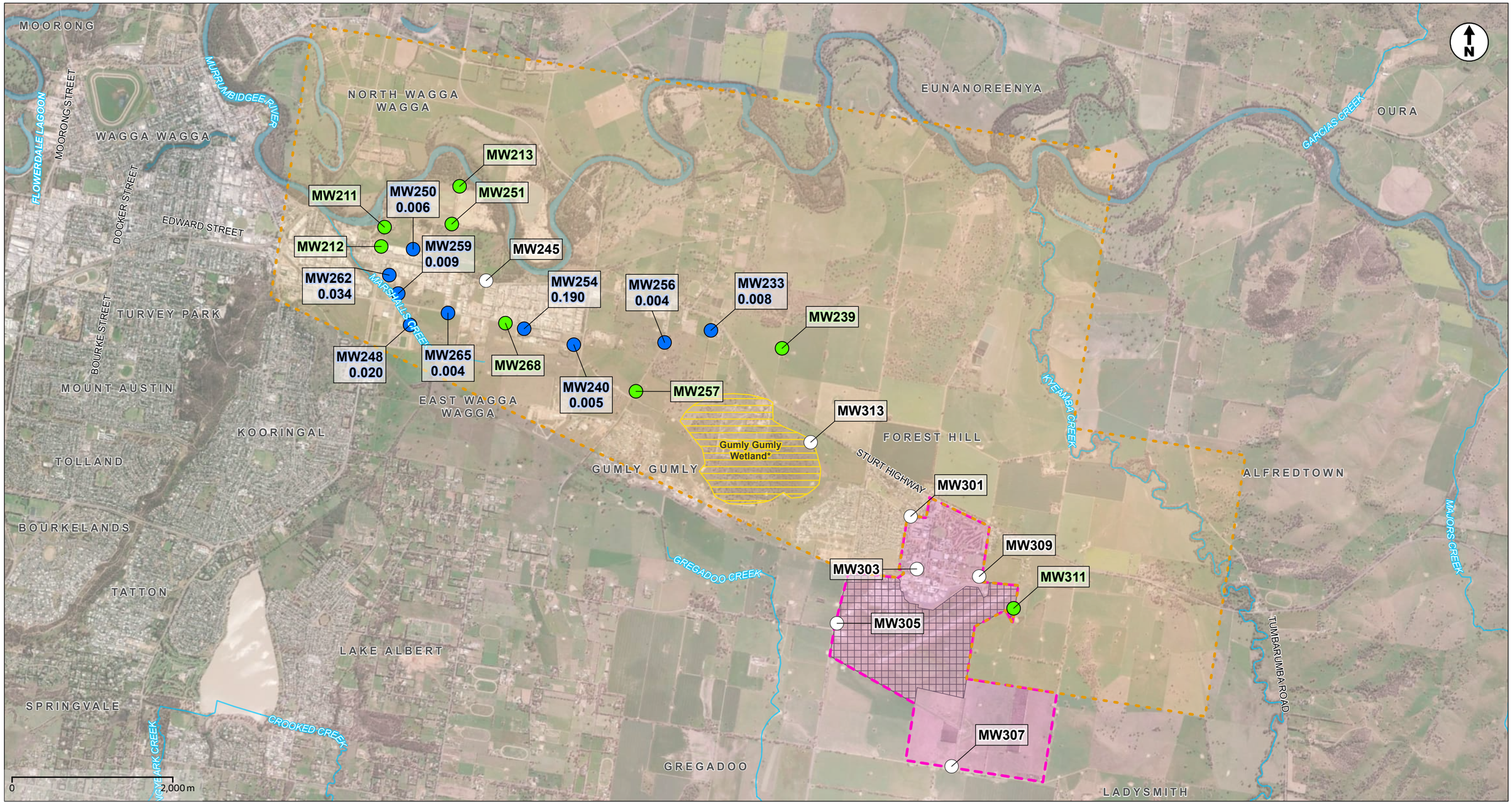


Legend

Groundwater samples (result units are in µg/L)

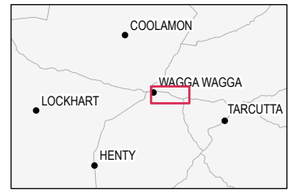
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-11: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOA - (Cowra)

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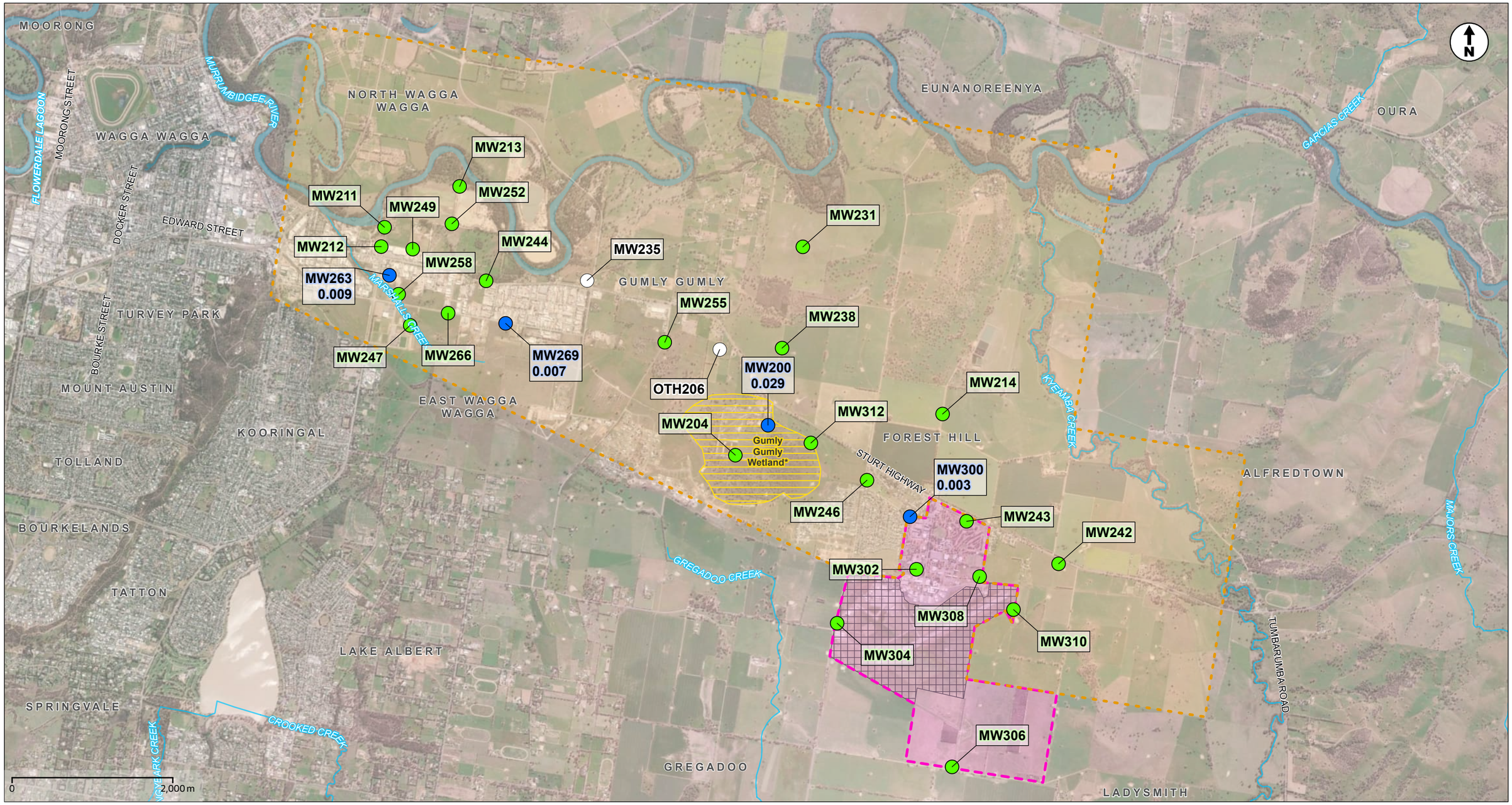


Legend

Groundwater samples (result units are in µg/L)

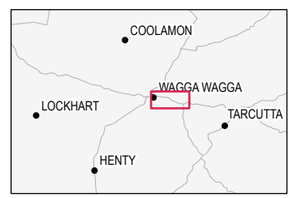
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-12: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOA - (Upper Lachlan)

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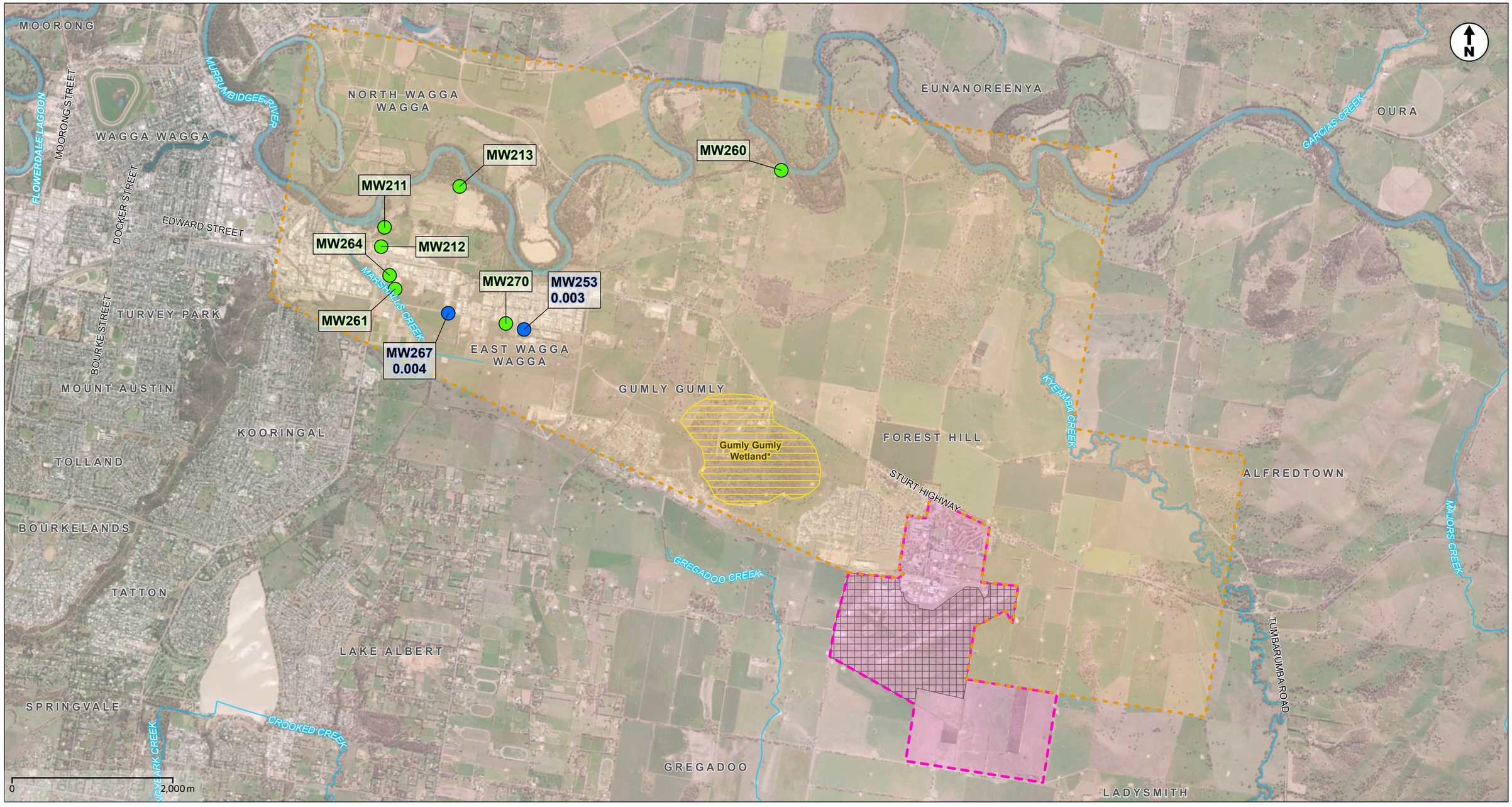


Legend

Groundwater samples (result units are in µg/L)

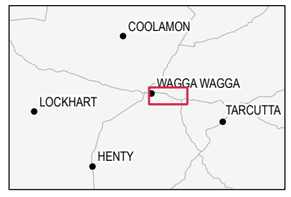
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-13: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOA - (Lower Lachlan)

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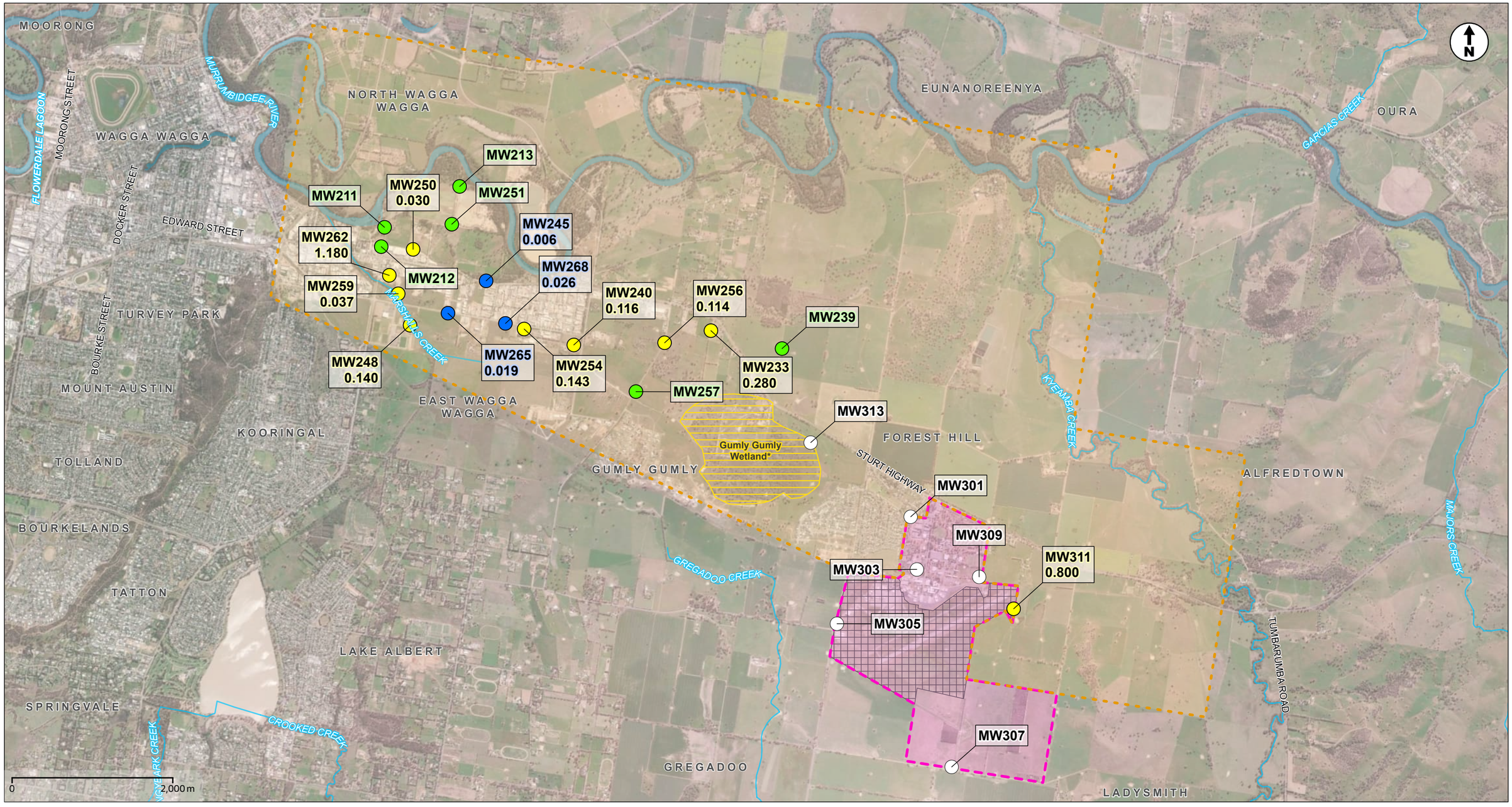


Legend

Groundwater samples (result units are in µg/L)

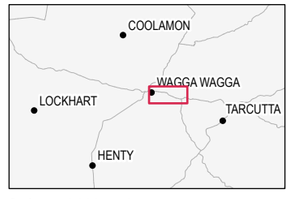
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-14: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFHxS - (Cowra)

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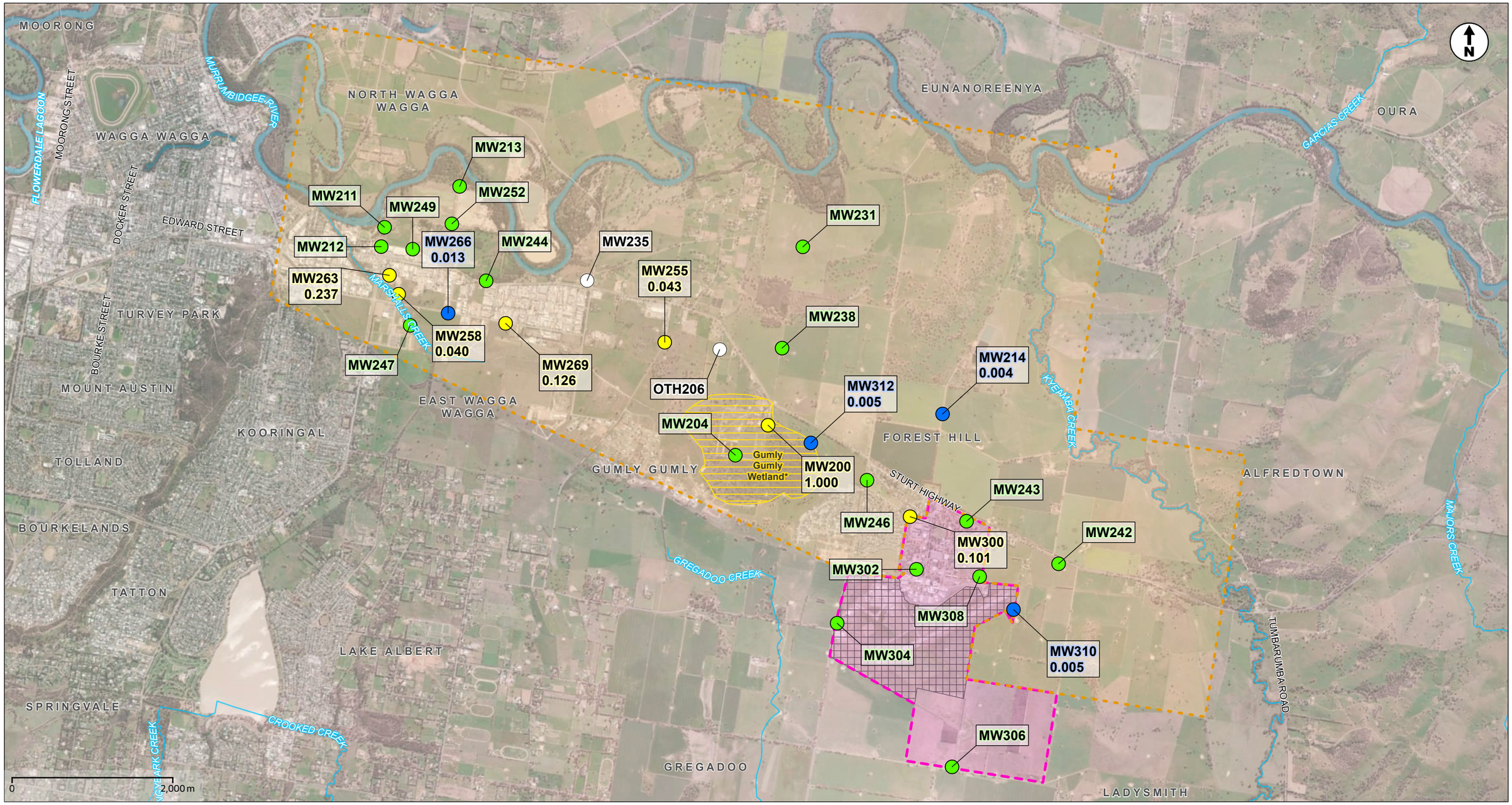


Legend

Groundwater samples (result units are in µg/L)

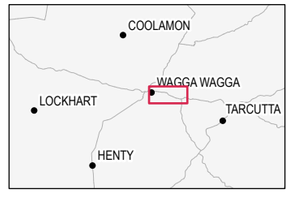
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-15: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFHxS - (Upper Lachlan)

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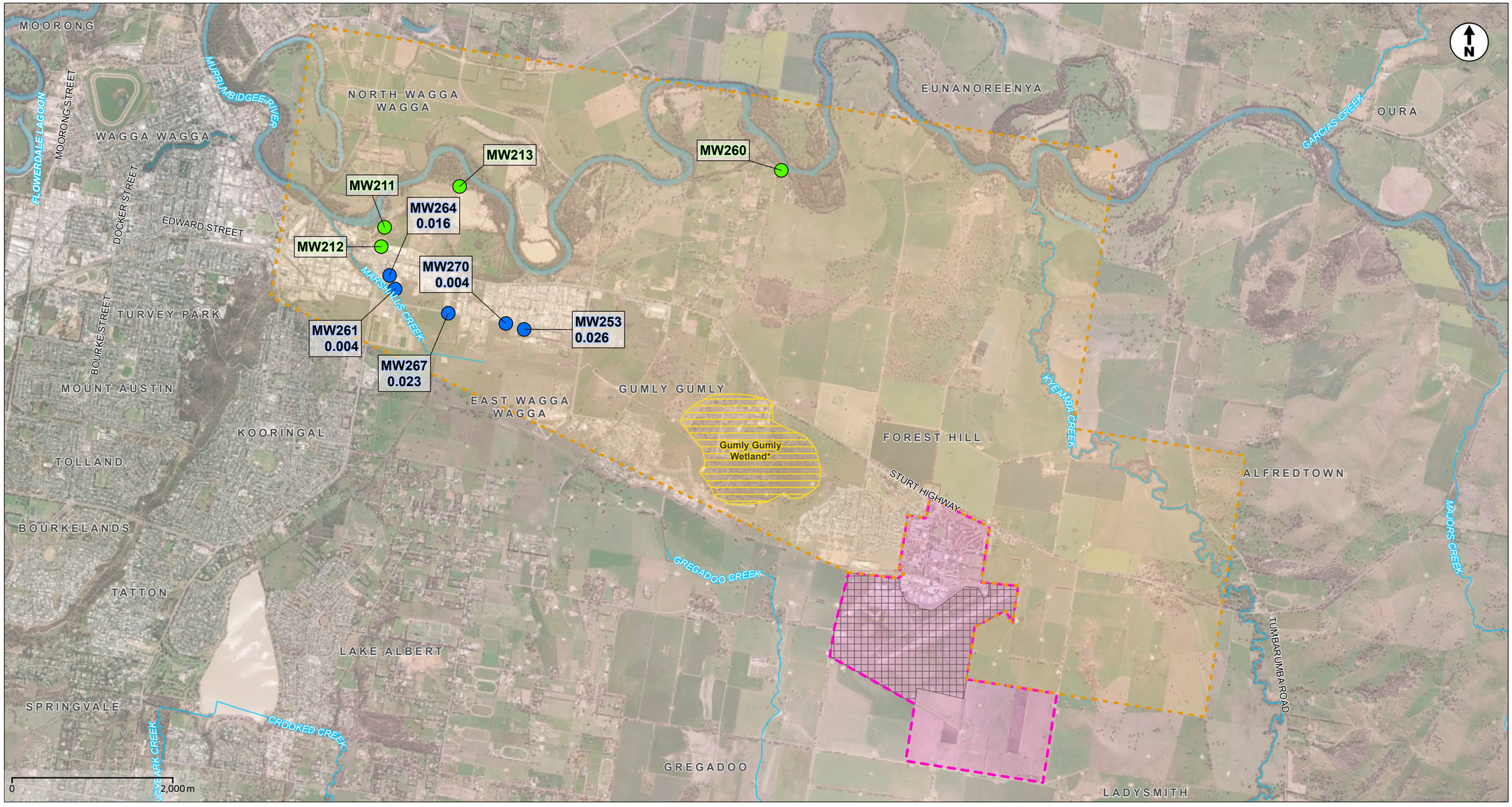


Legend

Groundwater samples (result units are in µg/L)

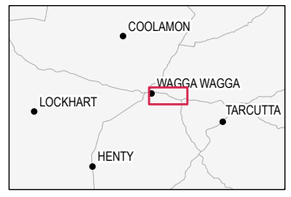
- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-16: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFHxS - (Lower Lachlan)

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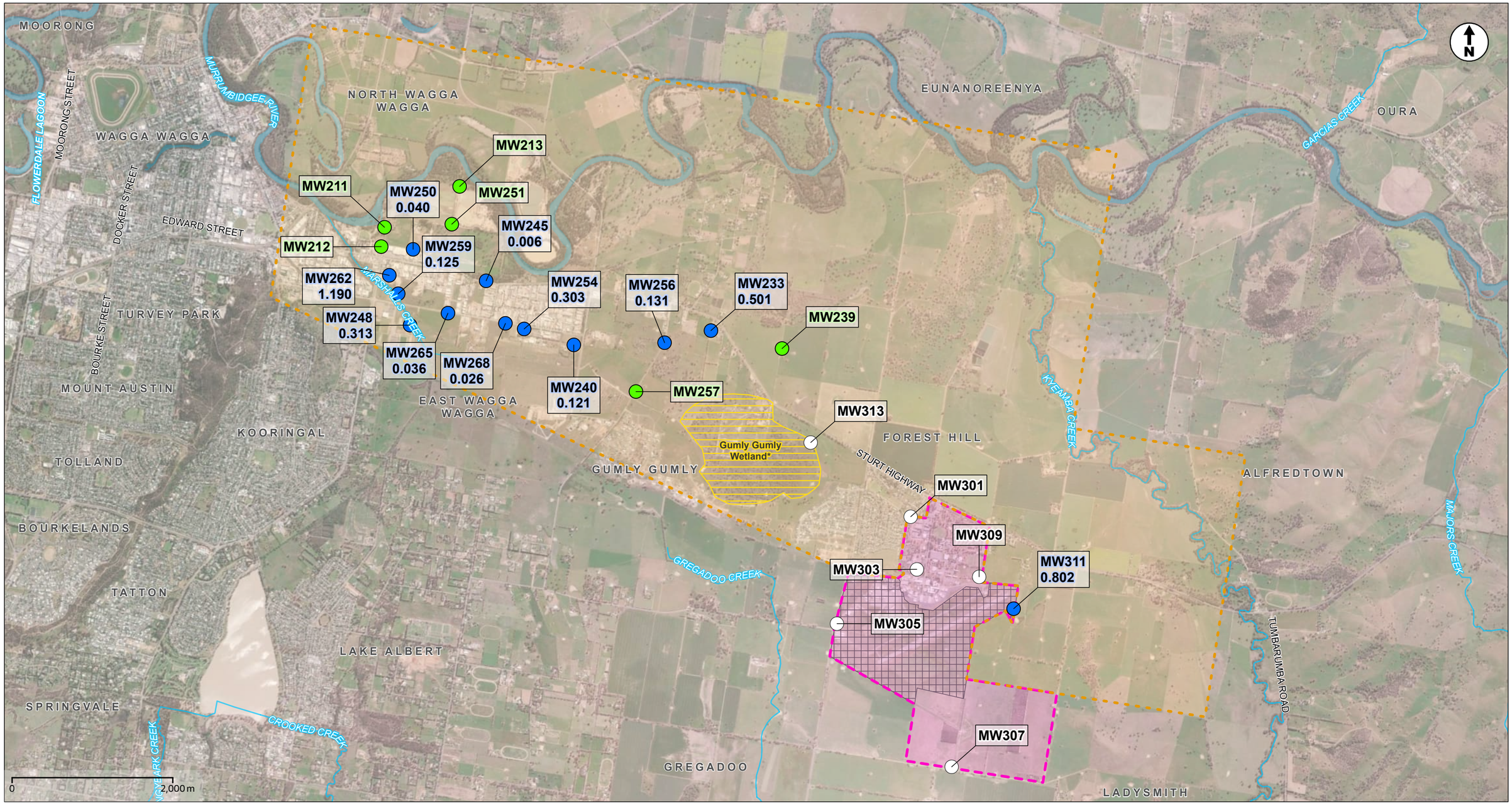


Legend

Groundwater samples (result units are in µg/L)

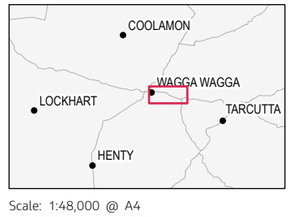
- Not sampled
- <LOR
- ≥LOR
- ≥Recreational

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*
- Watercourse

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-17: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS+PFHxS - (Cowra)

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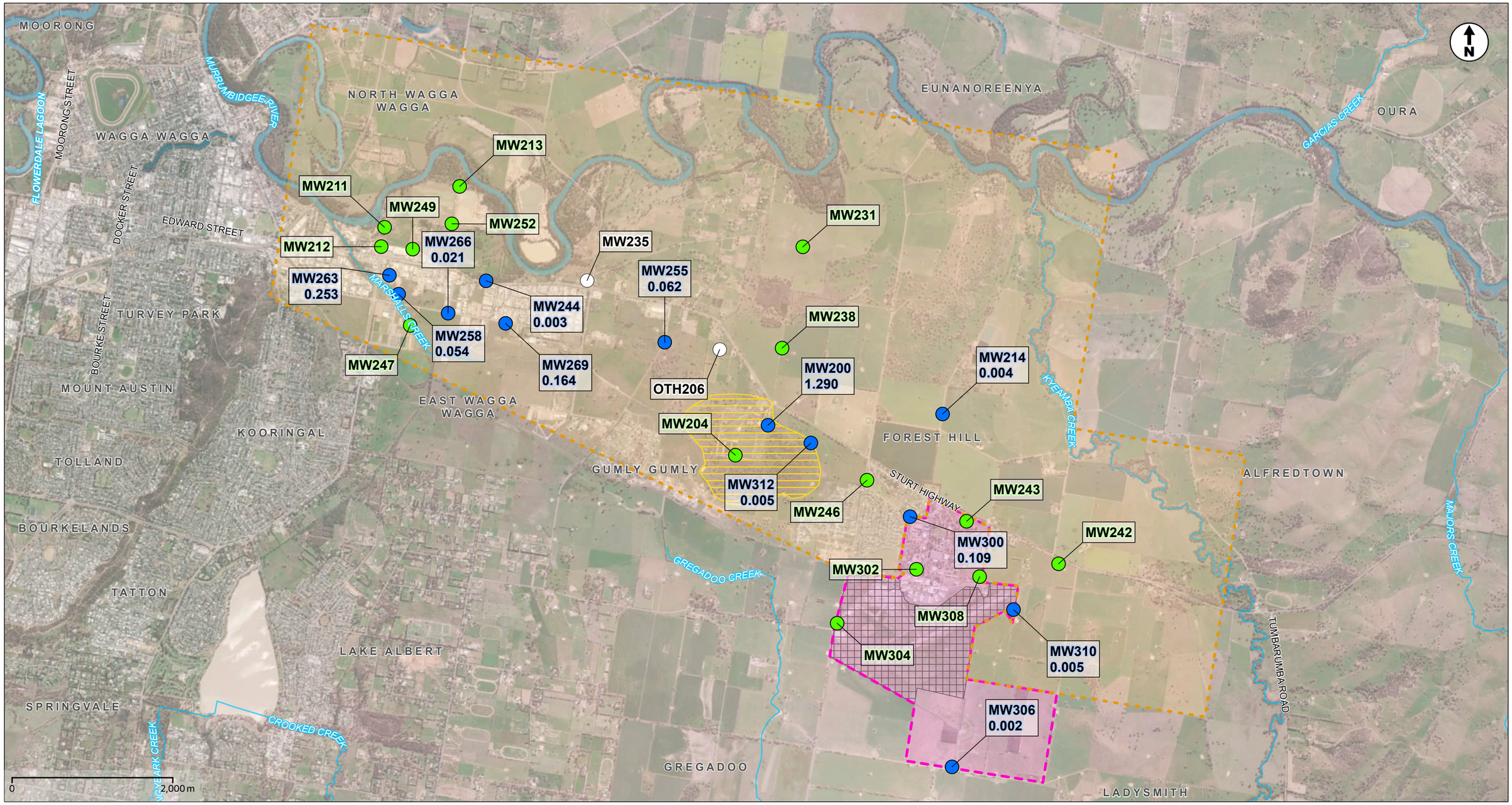


Legend

Groundwater samples (result units are in µg/L)

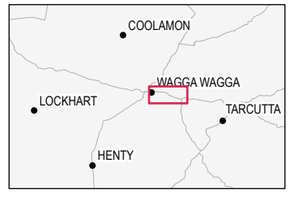
- Not sampled
- <LOR
- ≥LOR
- ≥Recreational

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*
- Watercourse

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-18: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS+PFHxS - (Upper Lachlan)

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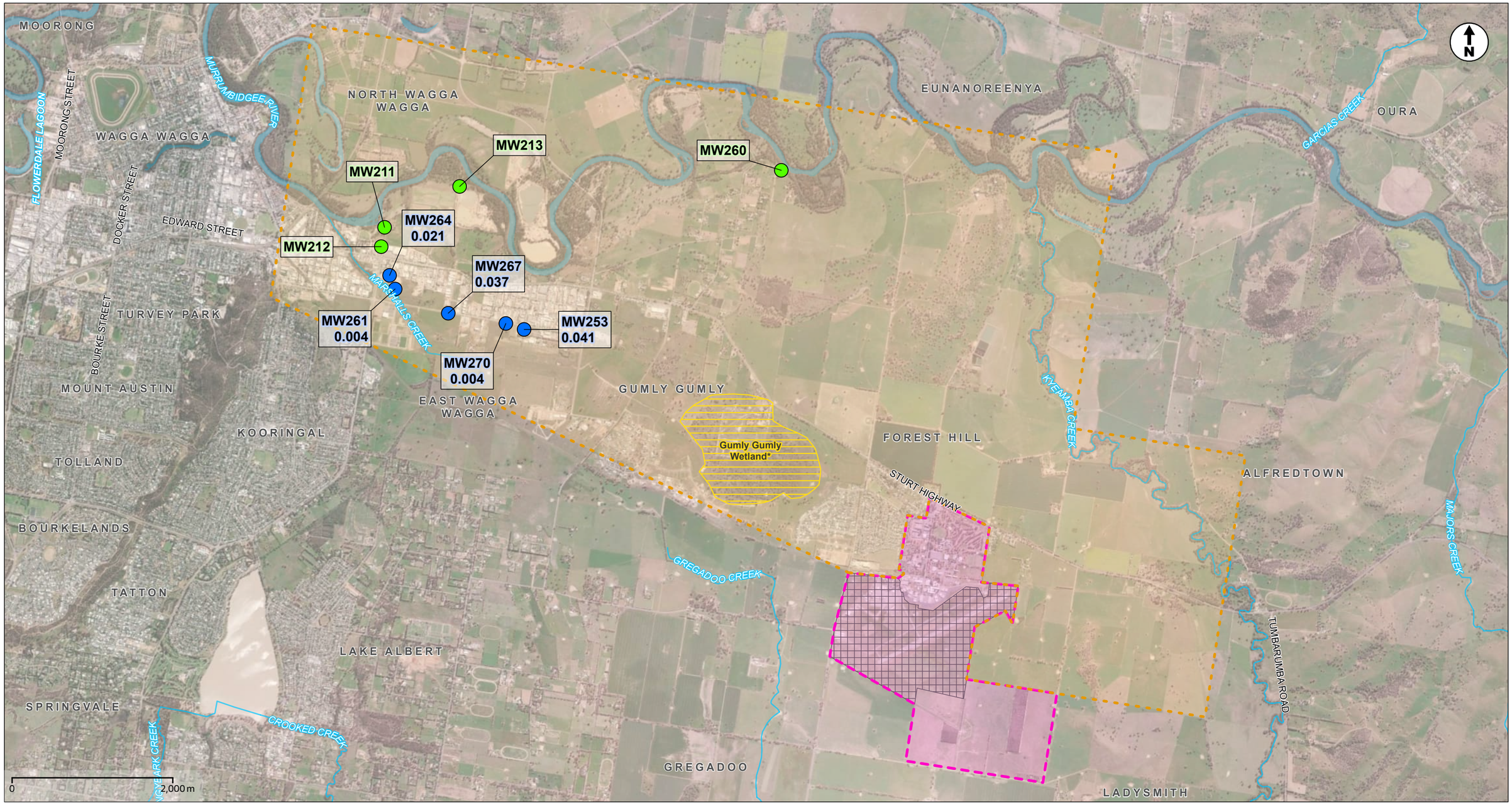


Legend

Groundwater samples (result units are in µg/L)

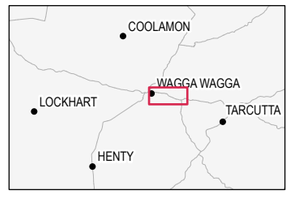
- Not sampled
- <LOR
- ≥LOR
- ≥Recreational

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*
- Watercourse

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-19: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS+PFHxS - (Lower Lachlan)

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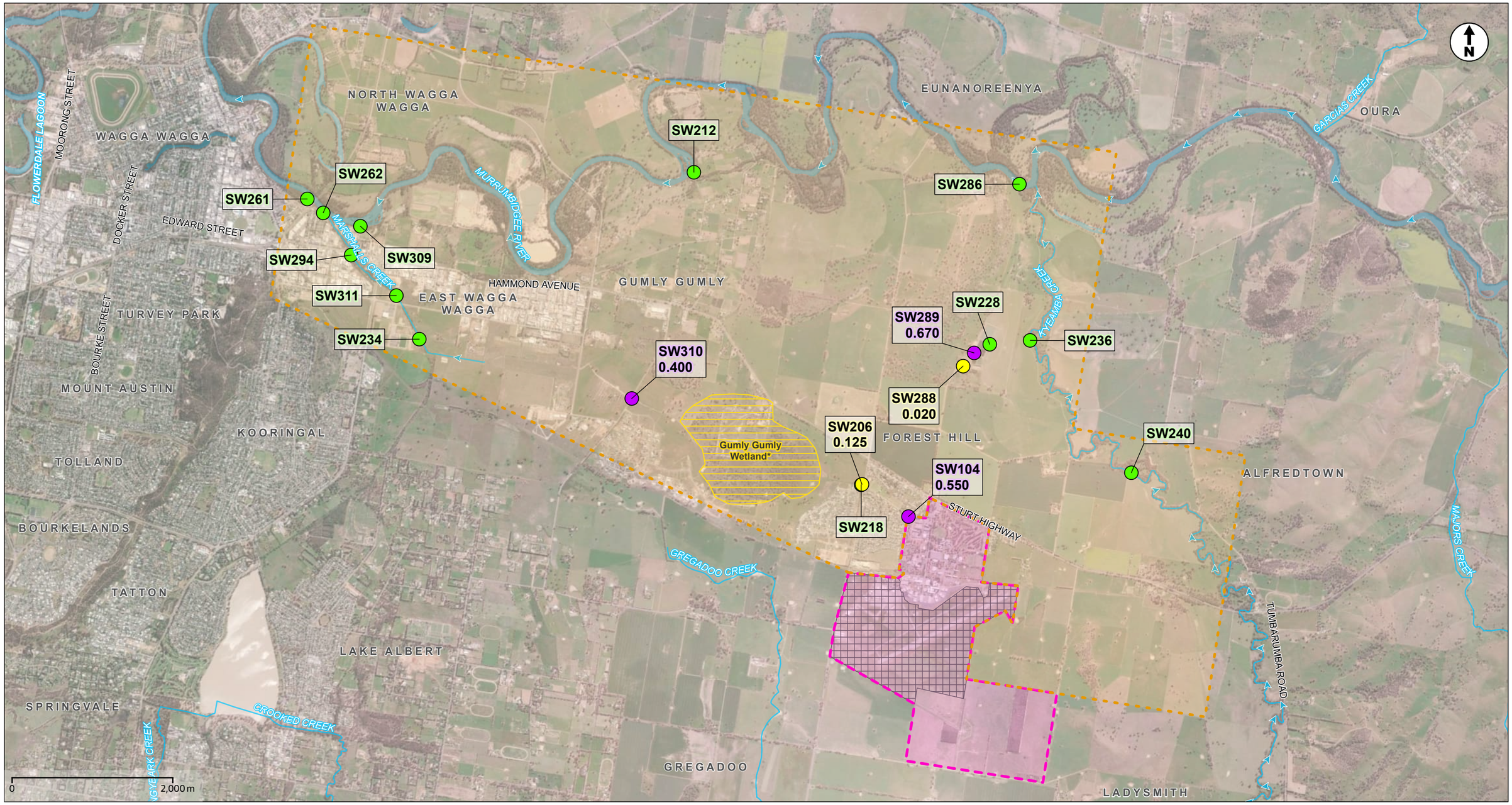


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

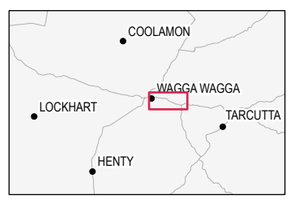
- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-20: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFOS

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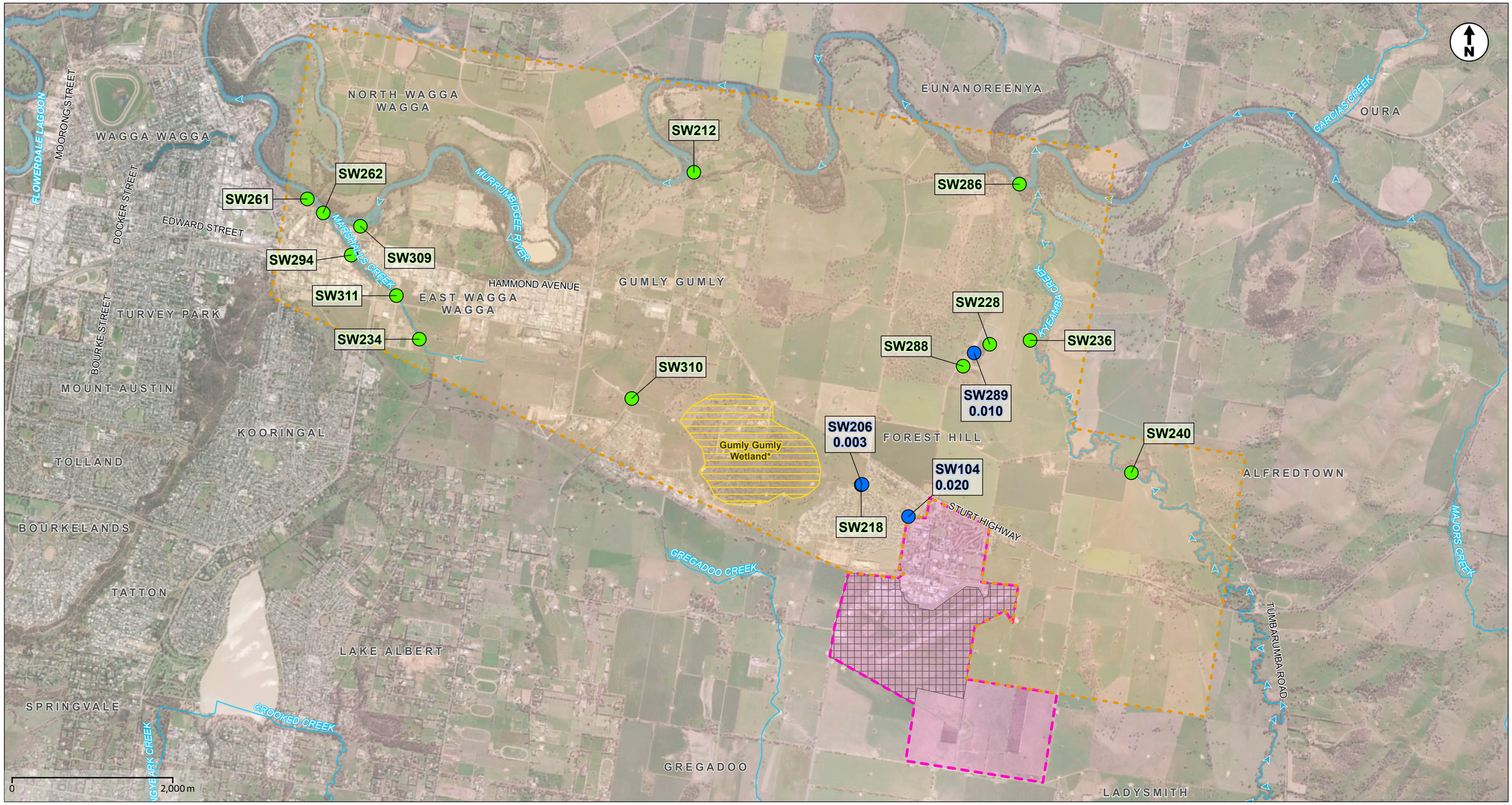


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

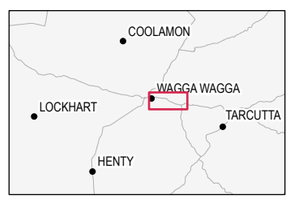
- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
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Figure A-21: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFOA

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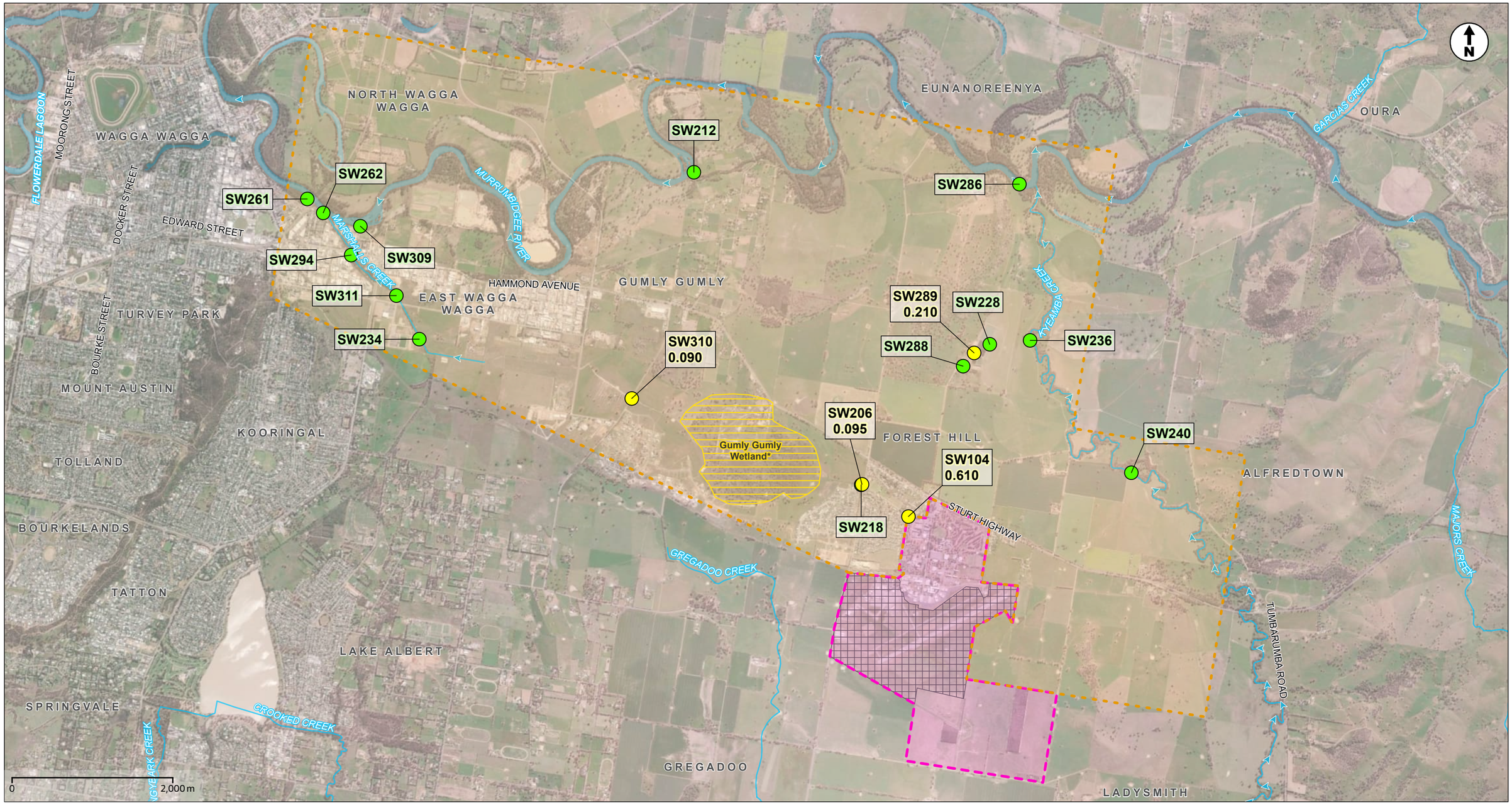


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

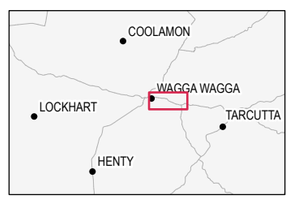
- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-22: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFHxS

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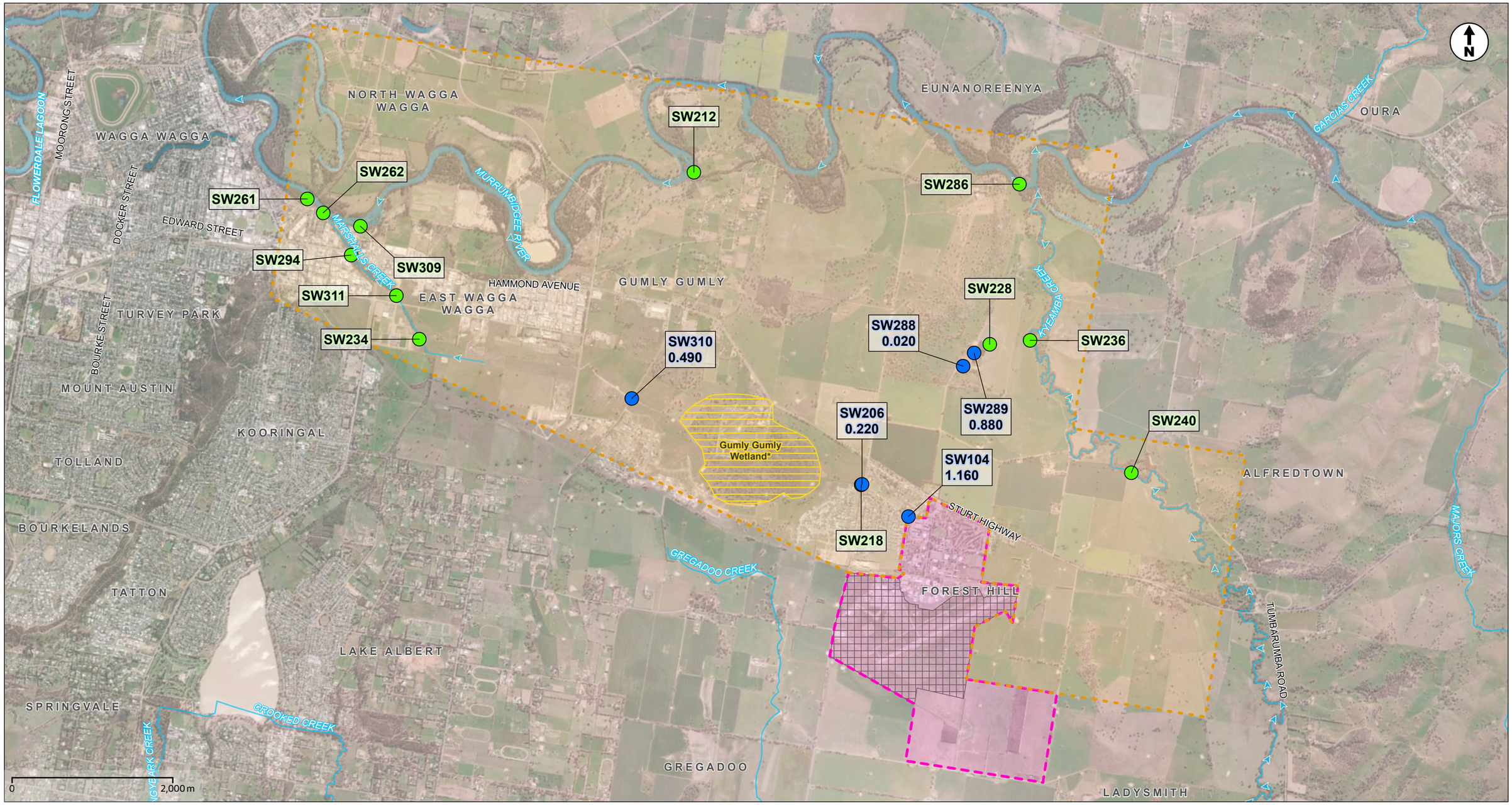


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

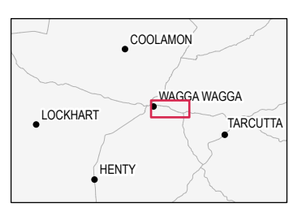
- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

Table of Guidelines

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	NA
≥Recreational (Human)	NA	≥10 - <220	NA	≥2
≥Ecology (Freshwater)	≥0.13	≥220	NA	NA



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-23: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFOS + PFHxS

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Appendix B. Tables

Table B-1. Groundwater Gauging and Field Data

Table B-2. Surface Water Field Data

Table B-3. Groundwater Analytical Results

Table B-4. Surface Water Analytical Results

Site	Location	Well	Monitoring Round	Sampled Date/Time	Matrix Type	Water Depth	Well Depth	DO (Field) (mg/L)	Electrical Conductivity	pH (Field) (pH Units)	Redox Potential (Field) (mV)	Temperature (Field) (°C)	Sample Comments
0906	MW200	Encased Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 10:40 PM	Water			2.82	1071	6.53	124.7	17	
0906	MW204	Upper Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 11:24 PM	Water	13.855	16.65	0.86	373.3	7.27	-118.4	16.7	Black sediment at bottom of sleeve and particles throughout
0906	MW209	Encased Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 12:48 AM	Water			1.47	373.8	6.46	13.4	25.9	
0906	MW211	Encased Lachlan	E9 - Apr 2024 (GW)	15 Apr 2024 8:47 AM	Water			3.93	346.5	6.52	93.8	19.2	sampled after running tap for 3 - 5 minutes, escorted by Miguel from Rwcc
0906	MW212	Encased Lachlan	E9 - Apr 2024 (GW)	15 Apr 2024 11:05 AM	Water			2.89	467.3	6.53	91.8	20.3	
0906	MW213	Encased Lachlan	E9 - Apr 2024 (GW)	15 Apr 2024 11:09 AM	Water			4.38	258	6.6	87	20.3	
0906	MW214	Encased Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 3:54 AM	Water			2.49	455.1	6.53	11.6	22.3	Water from cloudy grey to clear after tap running for a couple of minutes
0906	MW231	Encased Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 1:39 AM	Water			8.1	448	6.49	78.1	20.2	
0906	MW233	Cowra	E9 - Apr 2024 (GW)	19 Apr 2024 4:30 AM	Water			2.12	1633	6.42	120.4	19	internal lab QC
0906	MW240	Cowra	E9 - Apr 2024 (GW)	16 Apr 2024 11:30 PM	Water	12.789	27.61	2.11	497.9	6.28	88	21.7	Thick dark brown sediment at bottom of sleeve
0906	MW241	Granite	E9 - Apr 2024 (GW)	18 Apr 2024 1:13 AM	Water	13.127	75.5	1.46	837	11.43	-143.4	17.4	Clear throughout sleeve
0906	MW246	Upper Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 12:58 AM	Water	19.661	70	0.77	408.9	6.57	129.2	21.3	Clear thoughtour sleeve, vegetation on top of sleeve
0906	MW247	Upper Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 12:58 AM	Water	11.34	35.03	1.44	732	9.47	-21.3	20.3	Thin layer of sediment at bottom of sleeve, no sheen, no odour.
0906	MW251	Cowra	E9 - Apr 2024 (GW)	20 Apr 2024 12:25 AM	Water	10.874	24.11	1.16	433.7	5.66	50.4	17.7	Clear throughout sleeve no odour
0906	MW252	Upper Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 11:53 PM	Water	10.81	62.43	2.59	329.1	6.07	141.9	16.5	Strong Sulphuric smell
0906	MW253	Lower Lachlan	E9 - Apr 2024 (GW)	20 Apr 2024 3:26 AM	Water	12.501	49.28	2.93	294	6.3	217	18.3	Clear throughout
0906	MW254	Cowra	E9 - Apr 2024 (GW)	16 Apr 2024 11:08 PM	Water	12.026	26.16	4.07	284.5	5.98	216.6	18.3	
0906	MW255	Upper Lachlan	E9 - Apr 2024 (GW)	16 Apr 2024 11:58 PM	Water	12.84	53.17	0.74	840	6.44	73.6	19.3	
0906	MW256	Cowra	E9 - Apr 2024 (GW)	16 Apr 2024 11:46 PM	Water	12.638	22.58	5.9	1153	6.49	93.2	19.2	Brown sediment at bottom of sleeve, no odour, no sheen
0906	MW257	Cowra	E9 - Apr 2024 (GW)	17 Apr 2024 12:38 AM	Water	12.699	16.8	5.46	3332	6.31	214.4	19.6	Light brown sediment at bottom of sleeve, no odour, no sheen
0906	MW258	Upper Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 4:26 AM	Water	10.635	27.29	1.1	763	6.72	248.4	17.6	Clear throughout sleeve
0906	MW259	Cowra	E9 - Apr 2024 (GW)	19 Apr 2024 4:09 AM	Water	10.715	18	3.18	451	5.51	228.9	18	Thick orange sediment at bottom of sleeve
0906	MW260	Encased Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 3:54 AM	Water			4.33	211.7	6.61	111.7	19.3	internal lab QC
0906	MW300	Upper Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 2:30 AM	Water	29.924	57.07	4.7	1134	6.25	194.1	19.8	Slight sediment at bottom of sleeve
0906	MW301	Cowra	E9 - Apr 2024 (GW)	17 Apr 2024 1:22 AM	Water	Dry	19	Well Dry - no water quality parameters collected					Well Dry
0906	MW302	Upper Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 1:47 AM	Water	34.357	63.7	3.73	834	6.33	150.9	21.1	Light sediment at bottom of sleeve, no odour, no sheen
0906	MW303	Cowra	E9 - Apr 2024 (GW)	17 Apr 2024 1:53 AM	Water	Dry	21.6	Well Dry - no water quality parameters collected					Well Dry
0906	MW305	Cowra	E9 - Apr 2024 (GW)	19 Apr 2024 4:56 AM	Water	Dry		Well Dry - no water quality parameters collected					Well Dry
0906	MW306	Upper Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 5:18 AM	Water	34.357	63.7	2.01	1827	6.86	244.5	20.4	Small amount of sediment at bottom of sleeve
0906	MW307	Cowra	E9 - Apr 2024 (GW)	19 Apr 2024 5:06 AM	Water	Dry	31.6	Well Dry - no water quality parameters collected					Well Dry
0906	MW308	Upper Lachlan	E9 - Apr 2024 (GW)	17 Apr 2024 4:39 AM	Water	42.03	67	2.13	378.6	6.35	131.5	20.9	high turbidity and sediment in bottom of sleeve
0906	MW309	Cowra	E9 - Apr 2024 (GW)	17 Apr 2024 4:49 AM	Water	Dry	24.9	Well Dry - no water quality parameters collected					insufficient water for sample and parameters
0906	MW310	Upper Lachlan	E9 - Apr 2024 (GW)	19 Apr 2024 6:13 AM	Water	22.83	59	2.63	1063	7.02	125.9	18.6	Well Dry
0906	MW311	Cowra	E9 - Apr 2024 (GW)	19 Apr 2024 6:20 AM	Water	17.237	22.1	3.01	3913	6.67	252.9	18.6	Light brown sediment at bottom of sleeve
0906	MW313	Cowra	E9 - Apr 2024 (GW)	17 Apr 2024 11:46 PM	Water	Dry	12.11	Well Dry - no water quality parameters collected					Well Dry
0906	MW200	Encased Lachlan	202502_Jacobs_WaggaOMP	04 Feb 2025 7:04 AM	Water			3.11	1359	6.65	-69.5	19.4	Pump on 5 min running. Clear, no odour, no staining, no foaming. Lab QC bottles collected.
0906	MW204	Upper Lachlan	202502_Jacobs_WaggaOMP	26 Feb 2025 7:21 AM	Water	13.845	18.1	1.7	511.6	7.35	-118.5	18.3	Clear with some suspended solids, orange organics. Organic odour.
0906	MW209	Encased Lachlan	202502_Jacobs_WaggaOMP	04 Feb 2025 1:41 PM	Water			6.29	335.8	6.28	-84.5	22.2	Clear, no odour or staining, no foaming. Property has been running pump at time of sample. Let it flow for 1 min. Orange brown for 2 seconds then clear.
0906	MW211	Encased Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 7:37 AM	Water			3.11	339.5	6.24	121.2	18.8	Tap ran for 1.5 minutes. Colourless, no odour or sheen, trace particulate matter
0906	MW212	Encased Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 7:22 AM	Water			4.01	256.2	6.6	108.9	20.1	Tap ran for a minute. RWCC noted the bore Wasn't running when they arrived. Colourless, no odour or sheen, trace white suspended solids.
0906	MW213	Encased Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 7:49 AM	Water			3.17	246.3	6.38	107.4	18.2	Clear, trace white suspended solids. No odour or sheen. Run tap for 2 minutes, has not been on in some time (RWCC). Remained clear the whole time.
0906	MW214	Encased Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 12:13 PM	Water			1.19	528	6.77	-53.9	38.1	Tap running for 1 min prior to sample collection Very cloudy/white, become clear after 1.5 min, slight bubbles, slight musty odour, no turbidity/no sheen or product
0906	MW231	Encased Lachlan	202502_Jacobs_WaggaOMP	04 Feb 2025 11:22 AM	Water			1.63	471.4	6.29	-52	20.5	Clear, low turbidity, no odour, no staining, no foaming. Tap running for 1 minute. Owner noted that he pre flushed it prior to comming. Orange water on ground.
0906	MW233	Cowra	202502_Jacobs_WaggaOMP	04 Feb 2025 2:08 PM	Water			6.02	1675	6.69	-22.5	21.9	Clear, no odour, no staining, no foaming. Pump ran for 1 minute. Was already running today, stated by property owner.
0906	MW238	Upper Lachlan	202502_Jacobs_WaggaOMP	26 Feb 2025 12:35 PM	Water	14.346	70.116	2.04	1277	6.65	134.7	26.6	Clear. No sediment, no odour. Lab dup taken.
0906	MW239	Cowra	202502_Jacobs_WaggaOMP	26 Feb 2025 1:11 PM	Water	13.828	21.17	4.84	1870	6.94	103.8	24.7	Clear to slightly cloudy, small amount of sand at base of hydrsleeve. Lab dup taken.
0906	MW240	Cowra	202502_Jacobs_WaggaOMP	28 Feb 2025 2:37 PM	Water	13.346	27.5	3.72	590	6.51	69.2	25.4	Slightly cloudy to cloudy, no odour. Rootlets/organic matter on top of hydrasleeve/settled at base of hydrasleeve. Parameters did not save after entering.
0906	MW241	Granite	202502_Jacobs_WaggaOMP	28 Feb 2025 9:21 AM	Water	13.479	74.24	1.35	761	10.64	-204.7	19.9	Slightly cloudy, greyish, no odour.
0906	MW242	Upper Lachlan	202502_Jacobs_WaggaOMP	28 Feb 2025 8:59 AM	Water	13.576	62.702	1.35	547	7.16	-178.1	21.6	Cloudy to turbid, brown grey, sulfuric odour, minor silty sediment settled at base of hydrasleeve.
0906	MW243	Upper Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 4:25 PM	Water	38.873	54.035	1.4	1263	6.5	136.3	23.5	Clear to slightly cloudy/white, minor sediment at base of sleeve, no odour/sheen/product. Organic fine grass present
0906	MW244	Lower Lachlan	202502_Jacobs_WaggaOMP	25 Feb 2025 2:04 PM	Water	12.234	60.59	1.78	210.4	6.67	154.2	22.1	Clear, no odour.
0906	MW245	Cowra	202502_Jacobs_WaggaOMP	25 Feb 2025 12:59 PM	Water	12.46	20.555	2.23	962	6.11	103.5	24	Clear to slightly cloudy with ants and sand settled at base of hydrasleeve, organic odour.
0906	MW246	Upper Lachlan	202502_Jacobs_WaggaOMP	07 Feb 2025 12:26 PM	Water	18.39	48.832	0.69	508.2	6.55	-100.7	24.1	Clear, slightly turbid at base of hydrasleeve. White suspended solids. No odour. White sheen on surface of water remaining from hydrasleeve.
0906	MW247	Upper Lachlan	202502_Jacobs_WaggaOMP	25 Feb 2025 11:07 AM	Water	11.941	34.902	2.41	1016	8.88	25.4	23	Cloudy, light brown, brownish sediment settled at base of hydrasleeve, no odour. Lab dup taken.
0906	MW248	Cowra	202502_Jacobs_WaggaOMP	25 Feb 2025 10:17 AM	Water	11.925	24.58	2.65	1815	6.74	109.6	21.6	No dups/trips taken. Data logger downloaded. Clear to slightly cloudy. Brown to light brown cloudy sediment settled at base of hydrasleeve. No odour.
0906	MW249	Upper Lachlan	202502_Jacobs_WaggaOMP	25 Feb 2025 4:04 PM	Water	14.127	60.665	2.1	788	6.32	74.7	24.4	lab dup taken. Clear to slightly cloudy, slight grey colour, no odour.
0906	MW250	Cowra	202502_Jacobs_WaggaOMP	25 Feb 2025 3:26 PM	Water	13.877	25.99	2.88	743	6.55	55.7	25.2	Clear to slightly cloudy, small amount of brown orange sandy sediment settled at base of hydrasleeve. No odour.
0906	MW251	Cowra	202502_Jacobs_WaggaOMP	27 Feb 2025 5:11 PM	Water	12.281	24.15	1.19	412.2	5.61	36	21.9	Clear to slightly cloudy, trace sandy sediment at base of hydrasleeve, no odour

Site	Location	Well	Monitoring Round	Sampled Date/Time	Matrix Type	Water Depth	Well Depth	DO (Field) (mg/L)	Electrical Conductivity	pH (Field) (pH Units)	Redox Potential (Field) (mV)	Temperature (Field) (°C)	Sample Comments
0906	MW252	Upper Lachlan	202502_Jacobs_WaggaOMP	27 Feb 2025 5:09 PM	Water	12.648	61.47	1.36	373	6.14	149.9	22.1	clear. No odour.
0906	MW253	Lower Lachlan	202502_Jacobs_WaggaOMP	07 Feb 2025 7:49 AM	Water	13.735	48.83	3.18	426.3	6.2	-23.1	20.1	Clear, no odour or sheen. Sampled 45 mbTOC
0906	MW254	Cowra	202502_Jacobs_WaggaOMP	07 Feb 2025 8:14 AM	Water	12.72	25.84	4.33	320	5.7	-4	19.3	Clear, white suspended solids. No odour or sheen.
0906	MW255	Upper Lachlan	202502_Jacobs_WaggaOMP	28 Feb 2025 11:36 AM	Water	13.214	52.987	1.96	1022	6.61	51	22.8	Clear, no odour
0906	MW256	Cowra	202502_Jacobs_WaggaOMP	28 Feb 2025 11:09 AM	Water	13.041	22.466	3.88	1556	6.64	52.8	23	Clear, no odour
0906	MW257	Cowra	202502_Jacobs_WaggaOMP	28 Feb 2025 10:33 AM	Water	12.857	16.56	5.04	3986	6.43	49.2	22.2	Clear, no odour or sediment.
0906	MW258	Upper Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 3:28 PM	Water	11.56	26.895	1.13	1006	6.64	-51	19.5	Clear, no odour or sheen. Trace white suspended solids at the base of hydrasleeve.
0906	MW259	Cowra	202502_Jacobs_WaggaOMP	05 Feb 2025 2:10 PM	Water	11.565	17.585	1.33	754	6.52	-87.5	20.4	Clear to orange brown at base of hydrasleeve. No suspended solids. No sheen or odour.
0906	MW260	Encased Lachlan	202502_Jacobs_WaggaOMP	04 Feb 2025 2:57 PM	Water			3.78	235	6.43	-33.2	21.5	Clear, no odour or staining, no particulate matter. Pump was on for a minute.
0906	MW261	Lower Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 2:49 PM	Water	14.185	59.44	0.63	379.2	6.59	-100.7	21.1	Clear to grey at base of hydrasleeve. Low to moderate turbidity. Sand at base.
0906	MW262	Cowra	202502_Jacobs_WaggaOMP	05 Feb 2025 10:11 AM	Water	12.173	24.25	5.12	870	6.42	-15.4	21	Clear, slightly turbid. Orange- brown at base of hydrasleeve. No odour.
0906	MW263	Upper Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 10:58 AM	Water	13.41	30.5	0.89	663	10.66	-149.9	20.8	Cloudy grey, very turbid, no odour, no sheen. White suspended solids. Sandy on twine.
0906	MW264	Lower Lachlan	202502_Jacobs_WaggaOMP	05 Feb 2025 11:39 AM	Water	14.607	49.33	0.73	432.5	7.34	-114.3	21.4	Clear, slightly turbid with white suspended solids. pale brown tinge at the base with trace sediments.
0906	MW265	Cowra	202502_Jacobs_WaggaOMP	06 Feb 2025 7:32 AM	Water	12.98	22.24	3.21	1462	6.45	100.5	20.4	Clear to orange, highly turbid at base of sleeve, no odour/sheen/product
0906	MW266	Upper Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 8:36 AM	Water	12.982	33.58	1.35	1015	6.55	126.7	20.5	Clear to slightly cloudy to very pale brown, slight organic odour, pale brown at base of sleeve with slight turbidity, no sheen/product
0906	MW267	Lower Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 9:12 AM	Water	14.905	49.3	2.83	270.3	6.48	130.6	20.9	Clear, no odour/turbidity/sheen/product
0906	MW268	Cowra	202502_Jacobs_WaggaOMP	06 Feb 2025 1:42 PM	Water	12.216	22.1	4.54	976	5.79	-31.7	22.1	Clear to brown at base of hydrasleeve. Slight turbidity.
0906	MW269	Upper Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 2:43 PM	Water	12.26	33.415	1.27	739	6.2	-54.6	22.7	Clear to green brown at the base of the hydrasleeve. Moderate turbidity.
0906	MW270	Lower Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 4:06 PM	Water	13.13	50.96	1.87	282.1	6.39	-108.2	22.5	Clear, slightly cloudy at base of hydrasleeve. Trace white suspended solids.
0906	MW300	Upper Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 3:20 PM	Water	29.24	62.06	3.03	1564	6.27	155.7	22.9	Clear to slightly cloudy, minor sediment at base of sleeve, no turbidity/odour/sheen
0906	MW301	Cowra	202502_Jacobs_WaggaOMP	03 Feb 2025 5:43 PM	Water	Dry	19.136	Well Dry - no water quality parameters collected					Well Dry
0906	MW302	Upper Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 2:01 PM	Water	38.124	65.21	2.59	624	6.54	139.7	23.8	Clear to slightly cloudy, minor silt/sand at base of sleeve, no odour/sheen/product
0906	MW303	Cowra	202502_Jacobs_WaggaOMP	03 Feb 2025 4:06 PM	Water		21.267						
0906	MW304	Upper Lachlan	202502_Jacobs_WaggaOMP	27 Feb 2025 8:13 AM	Water	38.974	52.16	1.49	1895	6.92	120.3	22.1	Clear at top of hydrasleeve, becoming cloudy brown orange towards base with brown/orange sediment settled at base of hydrasleeve.
0906	MW305	Cowra	202502_Jacobs_WaggaOMP	03 Feb 2025 4:26 PM	Water	Dry		Well Dry - no water quality parameters collected					Well Dry
0906	MW306	Upper Lachlan	202502_Jacobs_WaggaOMP	28 Feb 2025 7:22 AM	Water	44.28	61.28	1.51	2313	6.93	-154.8	19.4	Clear, slight sulfuric odour, yellow colouring on hydrasleeve string ~45-51 mbgl
0906	MW307	Cowra	202502_Jacobs_WaggaOMP	03 Feb 2025 2:51 PM	Water	Dry	31	Well Dry - no water quality parameters collected					Well Dry
0906	MW308	Upper Lachlan	202502_Jacobs_WaggaOMP	06 Feb 2025 12:33 PM	Water	41.953	66.762	3	716	6.36	139.4	24.8	Clear to pale brown/orange, high turbidity at base of sleeve, no odour/sheen/product
0906	MW309	Cowra	202502_Jacobs_WaggaOMP	03 Feb 2025 5:03 PM	Water	Dry	25.117	Well Dry - no water quality parameters collected					Well Dry
0906	MW310	Upper Lachlan	202502_Jacobs_WaggaOMP	07 Feb 2025 11:10 AM	Water	22.848	58.835	2.13	1264	6.98	99.7	24.7	Pale brown to grey, low turbidity, moderate orange sediment at base of sleeve, no odour/sheen/product
0906	MW311	Cowra	202502_Jacobs_WaggaOMP	07 Feb 2025 10:39 AM	Water	17.849	22.1	1.72	5138	6.72	116.7	23.5	Pale brown to pale orange, low turbidity with suspended solids, no odour/sheen/product
0906	MW312	Upper Lachlan	202502_Jacobs_WaggaOMP	26 Feb 2025 9:09 AM	Water	12.602	51.511	4.36	834	6.71	58.6	20.8	Cloudy to turbid, light brown to orange, fine suspended solids settled at base of well, brown to orange.
0906	MW313	Cowra	202502_Jacobs_WaggaOMP	04 Feb 2025 3:12 PM	Water	Dry	11.981	Well Dry - no water quality parameters collected					Well Dry

Site	Location	Monitoring Round	Sampled Date/Time	Matrix Type	DO (Field) (mg/L)	EC (µS/cm)	pH (Field) (pH Units)	Redox Potential (Field) (mV)	Temperature (Field) (°C)	Sample Comments
0906	SW104	E9 - Apr 2024 (SW)	20 Apr 2024 2:11 AM	Water	6.88	310.5	7.79	144.3	19.4	Algae on base of pit, flow from southern pipe
0906	SW206	E9 - Apr 2024 (SW)	17 Apr 2024 1:24 AM	Water	5.35	419.3	8.14	92	19.6	slight sewage odor
0906	SW212	E9 - Apr 2024 (SW)	20 Apr 2024 2:48 AM	Water	6.81	192.4	7.91	98.5	19.6	
0906	SW218	E9 - Apr 2024 (SW)	17 Apr 2024 1:30 AM	Water	6.15	466.7	8.37	89.1	19.3	slight sewage odor and green algae foaming on concrete outlet pipe
0906	SW228	E9 - Apr 2024 (SW)	18 Apr 2024 11:29 PM	Water	7.44	485.3	9.74	30.6	18.8	sewage odor
0906	SW234	E9 - Apr 2024 (SW)	18 Apr 2024 6:14 AM	Water	4.73	620	7.04	105.6	18.1	No flow pond, wind causing ripples, lots of vegetation, sampled at creek
0906	SW236	E9 - Apr 2024 (SW)	18 Apr 2024 2:20 AM	Water	7.1	1100	8.1	71.5	19.9	slight organic odor
0906	SW240	E9 - Apr 2024 (SW)	18 Apr 2024 1:56 AM	Water	10.71	1308	8.3	82.6	19.5	Stagnant pond as part of the creek, water bugs
0906	SW261	E9 - Apr 2024 (SW)	16 Apr 2024 5:13 AM	Water	6.27	156.7	7.73	94.1	19.4	
0906	SW262	E9 - Apr 2024 (SW)	16 Apr 2024 5:19 AM	Water	7.22	279.4	7.58	101.2	18.4	internal lab, QC
0906	SW286	E9 - Apr 2024 (SW)	18 Apr 2024 3:38 AM	Water	4.86	175.5	7.63	134.5	18.8	
0906	SW288	E9 - Apr 2024 (SW)	18 Apr 2024 10:48 PM	Water	1.16	528	7.57	-112.9	20.2	Strong sewage odour
0906	SW289	E9 - Apr 2024 (SW)	18 Apr 2024 11:05 PM	Water	0.5	761	7.69	36.6	20.1	sewage odour, sampled from inflow pipe at treatment pond
0906	SW294	E9 - Apr 2024 (SW)	16 Apr 2024 5:40 AM	Water	6.92	249.9	8.81	94.3	18.1	
0906	SW310	E9 - Apr 2024 (SW)	17 Apr 2024 12:32 AM	Water	3.43	175.2	6.83	78.8	17.4	
0906	SW104	202502_Jacobs_WaggaOMP	27 Feb 2025 11:03 AM	Water						Clear, slight organic odour. No parameters collected - too slow/little flow from inlet.
0906	SW206	202502_Jacobs_WaggaOMP	27 Feb 2025 10:05 AM	Water	6.17	304.8	7.76	44.9	23.9	CLear to slightly cloudy, organic matter growing in culvert, foam on surface, slight organic odour, anthropogenic material in drain i.e. syringe , plastic. Slight foam on surface.
0906	SW212	202502_Jacobs_WaggaOMP	28 Feb 2025 10:08 PM	Water	5.02	148	7.66	93.7	23.1	Slightly cloudy to cloudy, no odour, low flow, moderate within main body of river
0906	SW218	202502_Jacobs_WaggaOMP	27 Feb 2025 12:22 PM	Water	6.39	290	8.01	85.3	25.7	CLear to slightly cloudy, slight brown tinge, organic matter growing in culvert, foam on surface, slight organic odour, anthropogenic material in drain i.e. syringe , plastic. Slight foam on surface.
0906	SW234	202502_Jacobs_WaggaOMP	04 Feb 2025 4:42 PM	Water	4.93	667	7.01	-54.4	29.3	Clear, slightly turbid, trace leaf litter
0906	SW261	202502_Jacobs_WaggaOMP	27 Feb 2025 2:31 PM	Water	6.6	152.6	7.65	103.4	24.6	Slightly cloudy to cloudy, slight brown tinge, no odour, river moderate flows, lower flows towards the banks.
0906	SW262	202502_Jacobs_WaggaOMP	06 Feb 2025 5:12 PM	Water	4.62	126.5	6.92	-64.5	25.3	Colourless, clear, no odour or sheen. Some bubbles on the surface. Leaf litter on the surface
0906	SW286	202502_Jacobs_WaggaOMP	26 Feb 2025 2:30 PM	Water	8.06	153	7.74	83.6	23.8	Slightly cloudy, no odour, no sheen, moderate flow in river
0906	SW294	202502_Jacobs_WaggaOMP	27 Feb 2025 4:32 PM	Water	5.13	558	7.04	122	25.2	Slightly cloudy to cloudy, brown to grey tinge, anthropogenic materials (i.e. tyre, cardboard, plastics, signs, geofab), low flow.
0906	SW310	202502_Jacobs_WaggaOMP	28 Feb 2025 2:28 PM	Water	0	270.6	6.92	-103.9	25.2	Turbid water, silty, grey brown, no odour. Stagnant, no flow in creek. Creek dry west of location.

							Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area	DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	0.34	0.29	2	0.08	1.36	-	<0.02	<0.1	0.1	0.32	0.05	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	2.26	18.6	200.5	245.5	7.59	-	0.18	0.19	1.15	0.04	0.75	-	<0.02	<0.1	0.05	0.26	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	31 Mar 2020	0906_QC103_20200331	ES2011455	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	0.19	0.2	1.17	0.05	0.83	-	<0.02	<0.1	0.05	0.26	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	31 Mar 2020	0906_QC203_20200331	712444	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<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
MW200	30 Sep 2020	0906_MW200_20200930	ES2034893	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	2.23	17.1	95.9	1,241	6.83	-	0.14	0.18	0.96	0.05	0.6	-	<0.02	<0.1	0.04	0.26	0.03	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	23 Apr 2021	0906_MW200_20210423	ES2116296	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	4.41	18.3	-23.2	1,524	7.06	-	0.14	0.15	1	<0.02	0.39	-	<0.02	<0.1	0.05	0.24	0.03	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	2.45	17.8	124.4	1,184	6.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	21 Oct 2021	0906_MW200_20211021	ES2139300	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	0.1	0.1	0.55	0.03	0.31	-	<0.02	<0.1	0.03	0.15	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	03 May 2022	0906_MW200_20220503	EM2208337	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	1.27	18.1	-5.4	1.36	6.85	-	0.09	0.1	0.64	0.02	0.28	-	<0.02	<0.1	0.03	0.14	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	08 Nov 2022	0906_MW200_221108	EM2222380	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	3.72	19.1	92.6	1,210	6.62	-	0.1	0.1	0.64	0.02	0.28	-	<0.02	<0.1	0.03	0.14	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Gumly Gumly Wetland	2.31	18.7	37.4	1,350	6.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	13 Apr 2023	0906_MW200_230413	EM2306915	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	0.09	0.12	0.66	0.03	0.3	-	<0.02	<0.1	0.03	0.16	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Gumly Gumly Wetland	2.22	16.5	16.6	1,045	6.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	13 Oct 2023	0906_MW200_231013	EM2318608	NSW_0906_PFASOMP_23	Other	Gumly Gumly Wetland	-	-	-	-	-	-	0.08	0.09	0.6	0.03	0.3	-	<0.02	<0.1	0.03	0.14	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	17 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Other	Gumly Gumly Wetland	2.82	17	124.7	1,071	6.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	18 Apr 2024	0906_MW200_240418	EM2406725	NSW_0906_PFASOMP_24	Other	Gumly Gumly Wetland	-	-	-	-	-	-	0.08	0.09	0.58	<0.02	0.2	-	<0.02	<0.1	0.03	0.14	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW200	04 Feb 2025	0906_MW200_250204	ES2503757	NSW_0906_PFASOMP_24a	Other	Gumly Gumly Wetland	3.11	19.4	-69.5	1,359	6.65	-	0.135	0.182	1	0.031	0.294	-	<0.002	0.06	0.058	0.211	0.025	0.029	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW204	07 Jul 2017	0906_GW204_D_07072017	ES1716876	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	07 Jul 2017	0906_QC101_07072017	ES1716876	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.04	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	07 Jul 2017	0906_QC201_07072017	553701	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.01	<0.01	0.02	<0.01	0.02	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW204	18 Jan 2018	0906_MW204_D_180118	ES1802488	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	18 Jan 2018	0906_QC101_180118	ES1802488	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	18 Jan 2018	0906_QC201_180118	581448	NSW_0906_PFAS	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.01	<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
MW204	20 Feb 2018	0906_MW204_D_180220	ES1805693	NSW_0906_PFAS	Other	Gumly Gumly Wetland	0.21	20.1	-175	525.3	7.28	-	<0.02	<0.02	0.02	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	30 Mar 2020	0906_MW204_20200330	ES2011455	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	8	19.9	152.3	995	6.41	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	01 Oct 2020	0906_MW204_20201001	ES2034893	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	0.46	17.2	-135.5	416.7	7.05	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	23 Apr 2021	0906_MW204_20210423	ES2116296	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	0.32	19.5	-174.6	486.9	7.42	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	0.5	18.3	-134.5	441.9	7.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	21 Oct 2021	0906_MW204_20211021	ES2139300	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	03 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	0.73	19.5	-50	0.485	7.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	03 May 2022	0906_MW204_20220503	EM2208337	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	0.73	19.5	-50	0.485	7.26	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	0.81	18.4	-69.9	414.5	6.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	09 Nov 2022	0906_MW204_221109	EM2222380	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Gumly Gumly Wetland	0.93	20.4	-75.2	291.8	7.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	13 Apr 2023	0906_MW204_230413	EM2306915	NSW_0906_PFASOMP	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Gumly Gumly Wetland	0.08	13.1	-146	362.1	7.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	13 Oct 2023	0906_MW204_231013	EM2318608	NSW_0906_PFASOMP_23	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	17 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Other	Gumly Gumly Wetland	0.86	16.7	-118.4	373.3	7.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	18 Apr 2024	0906_MW204_240418	EM2406725	NSW_0906_PFASOMP_24	Other	Gumly Gumly Wetland	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW204	26 Feb 2025	0906_MW204_250226	ES2506603	NSW_0906_PFASOMP_24a	Other	Gumly Gumly Wetland	1.7	18.3	-118.5	511.6	7.35	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	Drinking Water Supply Bore	4.96	15.5	82.6	0.222	7.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	Drinking Water Supply Bore	4.86	15.7	74.9	0.22	7.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	Drinking Water Supply Bore	6.72	14	70.8	0.214	7.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	Drinking Water Supply Bore	8.15	13.3	68.2	0.209	7.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	0906_GW209_D_170907	EM1712263	NSW_0906_PFAS	Other	Drinking Water Supply Bore	0.94	17.4	-26.3	263	8.02	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	07 Sep 2017	0906_QC101_170907	EM1712263	NSW_0906_PFAS	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	07 Sep 2017	0906_QC201_170907	562566	NSW_0906_PFAS	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<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
MW209	12 Jan 2018	0906_MW209_D_180112	ES1801990	NSW_0906_PFAS	Other	Drinking Water Supply Bore	2.58	21.7	24.8	256.2	6.33	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	31 Mar 2020	0906_MW209_20200331	ES2011456	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	1.55	21	143.2	748	6.62	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	30 Sep 2020	0906_MW209_20200930	ES2034898	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	1.93	17.1	25.1	268.9	6.44	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	22 Apr 2021	0906_MW209_20210422	ES2116325	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	0.75	17.4	-6.5	333.2	6.58	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	21 Oct 2021	0906_MW209_20211021	ES2139301	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	1.55	20.7	-3	329.7	6.78	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	03 May 2022	0906_MW209_20220503	EM2208336	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	0.61	20.5	-28	0.196	6.5	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	09 Nov 2022	0906_MW209_221109	EM2222392	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	6.32	18.8	45.8	285.9	6.65	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	17 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	1.47	18.1	-35.5	429.8	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	18 Apr 2023	0906_MW209_230418	EM2306916	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	15 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	1.8	17.5	-23.7	268.4	6.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	16 Oct 2023	0906_MW209_231016	EM2318609	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	19 Apr 2024	0906_MW209_240419	EM2406724	NSW_0906_PFASOMP_24	Other	Drinking Water Supply Bore	1.47	25.9	13.4	373.8	6.46	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW209	04 Feb 2025	0906_MW209_250204	ES2503757	NSW_0906_PFASOMP_24a	Other	Drinking Water Supply Bore	6.29	22.2	-84.5	335.8	6.28	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW211	20 Jun 2017	0906_EWB1_170620	ES1715334	NSW_0906_PFAS	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	04 Dec 2017	0906_EWB1_171204	ES1731229	NSW_0906_PFAS	Other	Drinking Water Supply Bore	2	18.2	39.2	1.6	6.07	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	27 Mar 2020	0906_MW211_20200327	ES2011459	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	4.13	20.5	89.5	3,110	6.75	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	28 Sep 2020	0906_MW211_20200928	ES2034885	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	3.58	17.9	155	268.3	7.2	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	20 Apr 2021	0906_MW211_20210420	ES2116324	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	0.99	19.7	198.5	293	6.47	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	1.01	18.9	64.2	273.1	6.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW211	20 Oct 2021	0906_MW211_20211020	ES2139303	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	0.91	18.3	142.9	219.7	6.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW211	08 Nov 2022	0906_MW211_221108	EM2222397	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	19 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	0.57	19	-176.6	302.1	6.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW211	19 Apr 2023	0906_GW025234_D_230419	EM2306927	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	19 Apr 2023	0906_GW025234_I_230419	EM2306927	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	22 Aug 2023	EWB1	EM2315195	NSW_0906_PFASMGMT	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	12 Oct 2023	0906_MW211_231012	EM2318611	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	3.33	17.4	128.6	287.2	6.44	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	15 Apr 2024	0906_MW211_240415	EM2406732	NSW_0906_PFASOMP_24	Other	Drinking Water Supply Bore	3.93	19.2	93.8	346.5	6.52	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW211	05 Feb 2025	0906_MW211_250205	ES2503757	NSW_0906_PFASOMP_24a	Other	Drinking Water Supply Bore	3.11	18.8	121.2	339.5	6.24	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW212	20 Jun 2017	0906_EWB2_170620	ES1715334	NSW_0906_PFAS	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	04 Dec 2017	0906_EWB2_171204	ES1731229	NSW_0906_PFAS	Other	Drinking Water Supply Bore	3.18	18.8	69.4	1.42	6.34	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	27 Mar 2020	0906_MW212_20200327	ES2011459	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	28 Sep 2020	0906_MW212_20200928	ES2034885	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	3.54	20	146.6	441.7	7.21	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	20 Apr 2021	0906_MW212_20210420	ES2116324	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.98	19.9	177.6	480	6.65	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.8	17.3	33.5	418.5	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW212	20 Oct 2021	0906_MW212_20211020	ES2139303	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	02 May 2022	0906_MW212_20220502	EM2208334	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.87	18.6	132.2	0.439	6.69	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	1.81	20.6	-135.9	379.1	7.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW212	08 Nov 2022	0906_MW212_221108	EM2222397	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	19 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	1.78	19.4	-85.1	593	6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW212	22 Aug 2023	0906_QC101_230822	EM2315195	NSW_0906_PFASMGMT	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	-	<0.01	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW212	22 Aug 2023	0906_QC201_230822	1020076	NSW_0906_PFASMGMT_24	Other	Drinking Water Supply Bore	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW212	22 Aug 2023	EWB2	EM2315195	NSW_0906_PFASMGMT	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	12 Oct 2023	0906_MW212_231012	EM2318611	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	2.48	18.5	111.9	224.8	6.58	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	15 Apr 2024	0906_MW212_240415	EM2406732	NSW_0906_PFASOMP_24	Other	Drinking Water Supply Bore	2.89	20.3	91.8	467.3	6.53	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW212	05 Feb 2025	0906_MW212_250205	ES2503757	NSW_0906_PFASOMP_24a	Other	Drinking Water Supply Bore	4.01	20.1	108.9	256.2	6.6	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW213	20 Jun 2017	0906_EWB3_170620	ES1715334	NSW_0906_PFAS	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	04 Dec 2017	0906_EWB3_171204	ES1731229	NSW_0906_PFAS	Other	Drinking Water Supply Bore	3.84	18.1	92.9	0.78	6.27	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	27 Mar 2020	0906_MW213_20200327	ES2011459	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	21.3	21.4	164.3	1,866	7.26	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	27 Mar 2020	0906_QC101_20200327	ES2011459	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	27 Mar 2020	0906_QC201_20200327	712442	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<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

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	3.36	4.25	-	4.62
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.9	2.47	-	2.7
MW200	31 Mar 2020	0906_QC103_20200331	ES2011455	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	2	2.58	-	2.83
MW200	31 Mar 2020	0906_QC203_20200331	712444	NSW_0906_PFASOMP	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW200	30 Sep 2020	0906_MW200_20200930	ES2034893	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.56	2.07	-	2.3
MW200	23 Apr 2021	0906_MW200_20210423	ES2116296	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.39	1.89	-	2.04
MW200	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	21 Oct 2021	0906_MW200_20211021	ES2139300	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.86	1.16	-	1.29
MW200	03 May 2022	0906_MW200_20220503	EM2208337	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.92	1.21	-	1.33
MW200	08 Nov 2022	0906_MW200_221108	EM2222380	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.92	1.21	-	1.33
MW200	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	13 Apr 2023	0906_MW200_230413	EM2306915	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.96	1.26	-	1.41
MW200	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	13 Oct 2023	0906_MW200_231013	EM2318608	NSW_0906_PFASOMP_23	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.9	1.17	-	1.29
MW200	17 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW200	18 Apr 2024	0906_MW200_240418	EM2406725	NSW_0906_PFASOMP_24	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.78	1.05	-	1.18
MW200	04 Feb 2025	0906_MW200_250204	ES2503757	NSW_0906_PFASOMP_24a	Other	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	1.29	1.81	<0.005	2.08
MW204	07 Jul 2017	0906_GW204_D_07072017	ES1716876	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
MW204	07 Jul 2017	0906_QC101_07072017	ES1716876	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08	-	0.08
MW204	07 Jul 2017	0906_QC201_07072017	553701	NSW_0906_PFAS	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-
MW204	18 Jan 2018	0906_MW204_D_180118	ES1802488	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
MW204	18 Jan 2018	0906_QC101_180118	ES1802488	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW204	18 Jan 2018	0906_QC201_180118	581448	NSW_0906_PFAS	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.05	-	<0.1
MW204	20 Feb 2018	0906_MW204_D_180220	ES1805693	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW204	30 Mar 2020	0906_MW204_20200330	ES2011455	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	01 Oct 2020	0906_MW204_20201001	ES2034893	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	23 Apr 2021	0906_MW204_20210423	ES2116296	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	21 Oct 2021	0906_MW204_20211021	ES2139300	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	03 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	03 May 2022	0906_MW204_20220503	EM2208337	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	09 Nov 2022	0906_MW204_221109	EM2222380	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	13 Apr 2023	0906_MW204_230413	EM2306915	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	13 Oct 2023	0906_MW204_231013	EM2318608	NSW_0906_PFASOMP_23	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	17 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW204	18 Apr 2024	0906_MW204_240418	EM2406725	NSW_0906_PFASOMP_24	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW204	26 Feb 2025	0906_MW204_250226	ES2506603	NSW_0906_PFASOMP_24a	Other	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	Field Record Only	N/A	NSW_0906_PFAS	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	07 Sep 2017	0906_GW209_D_170907	EM1712263	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	07 Sep 2017	0906_QC101_170907	EM1712263	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	07 Sep 2017	0906_QC201_170907	562566	NSW_0906_PFAS	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW209	12 Jan 2018	0906_MW209_D_180112	ES1801990	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	31 Mar 2020	0906_MW209_20200331	ES2011456	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	30 Sep 2020	0906_MW209_20200930	ES2034898	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	22 Apr 2021	0906_MW209_20210422	ES2116325	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	21 Oct 2021	0906_MW209_20211021	ES2139301	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	03 May 2022	0906_MW209_20220503	EM2208336	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	09 Nov 2022	0906_MW209_221109	EM2222392	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	17 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	18 Apr 2023	0906_MW209_230418	EM2306916	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	15 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW209	16 Oct 2023	0906_MW209_231016	EM2318609	NSW_0906_PFASOMP_23	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	19 Apr 2024	0906_MW209_240419	EM2406724	NSW_0906_PFASOMP_24	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW209	04 Feb 2025	0906_MW209_250204	ES2503757	NSW_0906_PFASOMP_24a	Other	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW211	20 Jun 2017	0906_EWB1_170620	ES1715334	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	04 Dec 2017	0906_EWB1_171204	ES1731229	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	27 Mar 2020	0906_MW211_20200327	ES2011459	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	28 Sep 2020	0906_MW211_20200928	ES2034885	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	20 Apr 2021	0906_MW211_20210420	ES2116324	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW211	20 Oct 2021	0906_MW211_20211020	ES2139303	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW211	08 Nov 2022	0906_MW211_221108	EM2222397	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	19 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW211	19 Apr 2023	0906_GW025234_D_230419	EM2306927	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	19 Apr 2023	0906_GW025234_I_230419	EM2306927	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	22 Aug 2023	EWB1	EM2315195	NSW_0906_PFASMGMT	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	12 Oct 2023	0906_MW211_231012	EM2318611	NSW_0906_PFASOMP_23	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	15 Apr 2024	0906_MW211_240415	EM2406732	NSW_0906_PFASOMP_24	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW211	05 Feb 2025	0906_MW211_250205	ES2503757	NSW_0906_PFASOMP_24a	Other	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW212	20 Jun 2017	0906_EWB2_170620	ES1715334	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	04 Dec 2017	0906_EWB2_171204	ES1731229	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	27 Mar 2020	0906_MW212_20200327	ES2011459	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	28 Sep 2020	0906_MW212_20200928	ES2034885	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	20 Apr 2021	0906_MW212_20210420	ES2116324	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW212	20 Oct 2021	0906_MW212_20211020	ES2139303	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	02 May 2022	0906_MW212_20220502	EM2208334	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW212	08 Nov 2022	0906_MW212_221108	EM2222397	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	19 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW212	22 Aug 2023	0906_QC101_230822	EM2315195	NSW_0906_PFASMGMT	Other	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.01	<0.01	-	-
MW212	22 Aug 2023	0906_QC201_230822	1020076	NSW_0906_PFASMGMT_24	Other	-	<0.05	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
MW212	22 Aug 2023	EWB2	EM2315195	NSW_0906_PFASMGMT	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	12 Oct 2023	0906_MW212_231012	EM2318611	NSW_0906_PFASOMP_23	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	15 Apr 2024	0906_MW212_240415	EM2406732	NSW_0906_PFASOMP_24	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW212	05 Feb 2025	0906_MW212_250205	ES2503757	NSW_0906_PFASOMP_24a	Other	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW213	20 Jun 2017	0906_EWB3_170620	ES1715334	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	04 Dec 2017	0906_EWB3_171204	ES1731229	NSW_0906_PFAS	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	27 Mar 2020	0906_MW213_20200327	ES2011459	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	27 Mar 2020	0906_QC101_20200327	ES2011459	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	27 Mar 2020	0906_QC201_20200327	712442	NSW_0906_PFASOMP	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

							Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										
							DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area																								
MW213	28 Sep 2020	0906_MW213_20200928	ES2034885	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.09	18.1	136.8	206.5	6.68	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	28 Sep 2020	0906_QC201_20200928	749083	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<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
MW213	20 Apr 2021	0906_MW213_20210420	ES2116324	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.06	19.3	121.2	228.7	6.5	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.04	16.9	73.2	205.4	6.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW213	20 Oct 2021	0906_MW213_20211020	ES2139303	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	20 Oct 2021	0906_QC104_20211020	ES2139303	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	20 Oct 2021	0906_QC204_20211020	842910	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<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
MW213	02 May 2022	0906_MW213_20220502	EM2208334	NSW_0906_PFASOMP	Other	Drinking Water Supply Bore	2.11	17.8	169.2	0.213	6.53	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	22 Aug 2023	EWB3	EM2315195	NSW_0906_PFASMGMT	Other	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	12 Oct 2023	0906_MW213_231012	EM2318611	NSW_0906_PFASOMP_23	Other	Drinking Water Supply Bore	2.91	17	109.4	212.4	6.45	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	15 Apr 2024	0906_MW213_240415	EM2406732	NSW_0906_PFASOMP_24	Other	Drinking Water Supply Bore	4.38	20.3	87	258	6.6	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW213	05 Feb 2025	0906_MW213_250205	ES2503757	NSW_0906_PFASOMP_24a	Other	Drinking Water Supply Bore	3.17	18.2	107.4	246.3	6.38	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW214	15 Jun 2016	WAG_GW047279	ES1613121	ACTNSW_Hist_202009-2	Upper Lachlan	N & NW of base	5.26	16.3	-30	514.8	7.16	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	20 Jun 2017	0906_GW047279_170620	ES1715334	NSW_0906_PFAS	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	18 Jan 2018	0906_MW214_D_180118	ES1802545	NSW_0906_PFAS	Upper Lachlan	N & NW of base	0.67	40.8	-53.8	664	6.8	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	31 Mar 2020	0906_MW214_20200331	ES2011568	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	7.79	22.4	170	605	7.55	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	01 Oct 2020	0906_MW214_20201001	ES2034891	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	2.42	18.8	4.6	491.9	6.83	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	27 Apr 2021	0906_MW214_20210427	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	0.94	20.5	3.2	561	6.64	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	21 Oct 2021	0906_MW214_20211021	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.22	20	26.1	552	6.77	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	03 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.42	18.4	3	0.56	6.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW214	04 May 2022	0906_MW214_20220503	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	07 Nov 2022	0906_MW214_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	2.27	21.3	32.6	513	5.12	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	3.32	18.6	-20.5	582	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW214	14 Apr 2023	0906_MW214_230414	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	16 Oct 2023	0906_MW214_231016	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	2.87	15.7	-9.1	411.3	6.64	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	17 Apr 2024	0906_MW214_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	N & NW of base	2.49	22.3	11.6	455.1	6.53	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW214	05 Feb 2025	0906_MW214_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	N & NW of base	1.19	38.1	-53.9	528	6.77	-	<0.002	<0.002	0.004	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW231	12 Jan 2018	0906_MW231_D_180112	ES1802473	NSW_0906_PFAS	Upper Lachlan	N & NW of base	3.93	23.16	24.5	480	6.51	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	26 Mar 2020	0906_MW231_20200326	ES2011456	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	2.97	18.3	102.9	2,964	7.36	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	26 Mar 2020	0906_MW231_20200326	ES2011459	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	30 Sep 2020	0906_MW231_20200930	ES2034898	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	3.79	16.7	82.6	413.7	6.49	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	22 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	0.98	16.8	19.3	510.8	6.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	23 Apr 2021	0906_MW231_20210423	ES2116325	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	21 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.47	19.6	88.2	446.6	6.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	22 Oct 2021	0906_MW231_20211022	ES2139301	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	03 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	7.58	17	103.5	0.444	6.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	04 May 2022	0906_MW231_20220504	EM2208336	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	09 Nov 2022	0906_MW231_221109	EM2222392	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	5.75	20	30.3	448.6	6.52	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	18 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	1.47	18.8	52.2	496.4	6.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	18 Apr 2023	0906_MW231_230418	EM2306916	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	16 Oct 2023	0906_MW231_231016	EM2318609	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	1.48	17	-0.8	210.9	6.61	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	19 Apr 2024	0906_MW231_240419	EM2406724	NSW_0906_PFASOMP_24	Upper Lachlan	N & NW of base	8.1	20.2	78.1	448	6.49	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW231	04 Feb 2025	0906_MW231_250204	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	N & NW of base	1.63	20.5	-52	471.4	6.29	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW233	20 Feb 2018	0906_MW233_I_180220	ES1805656	NSW_0906_PFAS	Cowra	Gumly Gumly Wetland	6.16	20.9	53.5	1,260	7.06	-	<0.02	<0.02	0.1	<0.02	0.08	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	25 Mar 2020	0906_MW233_20200325	ES2011451	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	1.18	21.5	53.8	245.1	6.66	-	<0.02	0.02	0.19	<0.02	0.18	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	30 Sep 2020	0906_MW233_20200930	ES2034890	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	8.82	17.8	170.9	1,854	6.56	-	0.02	0.03	0.19	<0.02	0.25	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	4.41	16	109.1	2,209	6.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW233	22 Apr 2021	0906_MW233_20210422	ES2116319	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	-	-	-	-	-	-	0.02	0.02	0.21	<0.02	0.17	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	19 Oct 2021	0906_MW233_20211019	ES2139304	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	1.83	18.9	163.2	1,192	6.59	-	0.03	0.04	0.24	<0.02	0.28	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	02 May 2022	0906_MW233_20220502	EM2208333	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	4.66	19.1	194.7	1.92	6.73	-	0.02	0.02	0.19	<0.02	0.2	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	0.44	21.2	-182.7	915	7.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW233	07 Nov 2022	0906_MW233_221107	EM2222376	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	-	-	-	-	-	-	0.03	0.03	0.23	<0.02	0.24	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Gumly Gumly Wetland	3.53	19.7	77.6	943	7.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW233	13 Apr 2023	0906_MW233_ 230413	EM2306918	NSW_0906_PFASOMP	Cowra	Gumly Gumly Wetland	-	-	-	-	-	-	0.02	0.04	0.21	<0.02	0.2	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	16 Oct 2023	0906_MW233_231016	EM2318613	NSW_0906_PFASOMP_23	Cowra	Gumly Gumly Wetland	3.06	17.5	70.1	1,406	6.64	-	<0.02	0.02	0.18	<0.02	0.18	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	19 Apr 2024	0906_MW233_240419	EM2406731	NSW_0906_PFASOMP_24	Cowra	Gumly Gumly Wetland	2.12	19	120.4	1,633	6.42	-	<0.02	0.02	0.15	<0.02	0.16	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW233	04 Feb 2025	0906_MW233_250204	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Gumly Gumly Wetland	6.02	21.9	-22.5	1,675	6.69	-	0.029	0.039	0.28	0.009	0.221	-	<0.002	<0.01	0.015	0.055	0.006	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW235	11 Jan 2018	0906_MW235_D_180111	ES1802460	NSW_0906_PFAS	Upper Lachlan	N & NW of base	1.64	27.9	-194.6	128.7	7.74	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	19 Dec 2019	0906_MW235_D_191219	ES1942606-AC	NSW_0906_PFAS	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW235	27 Mar 2020	0906_MW235_20200327	ES2011450	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	3.52	25.1	113.7	1,292	6.41	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	30 Sep 2020	0906_MW235_20200930	ES2034899	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	3.81	16.2	163.5	122.2	6.89	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	20 Apr 2021	0906_MW235_20210420	ES2115488	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.01	19.3	88.4	171.5	6.65	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	3.63	16.8	145.5	136.3	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	20 Oct 2021	0906_MW235_20211020	ES2139305	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	01 May 2022	0906_MW235_20220501	EM2208341	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.58	17.7	125.8	0.091	6.59	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.57	18.8	113.3	138.6	6.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	07 Nov 2022	0906_MW235_221107	EM2222377	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	1.49	17.6	-47.5	184.3	7.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	13 Apr 2023	0906_MW235_230413	EM2306920	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW235	05 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Upper Lachlan	N & NW of base	5.16	25.9	329.4	140.1	7.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	05 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Upper Lachlan	N & NW of base	5.73	25.7	412.8	139.4	7.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	12 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	Downgradient of Gumly	6.23	19.7	117	1,265	6.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	12 Dec 2019	0906_MW238_I_191212	ES1941492-AC	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW238	30 Mar 2020	0906_MW238_20200330	ES2011456	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.48	21.2	94.2	297.6	7.05	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	30 Sep 2020	0906_MW238_20200930	ES2034898	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.82	17.3	-32.2	6.39	6.69	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	22 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.56	18.6	-124	1,389	6.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	23 Apr 2021	0906_MW238_20210423	ES2116325	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	21 Oct 2021	0906_MW238_20211021	ES2139301	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.7	22.5	-57	1,338	6.58	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.93	16.8	58.4	0.72	6.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	03 May 2022	0906_MW238_20220503	EM2208336	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	0.03	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	08 Nov 2022	0906_MW238_221108	EM2222392	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.84	20.5	152.2	706	6.36	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	17 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	3.02	17.7	80	419	6.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	18 Apr 2023	0906_MW238_230418	EM2306916	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	15 Oct 2023	0906_MW238_231015	EM2318609	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	1.23	18.8	110.8	505	6.53	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	19 Apr 2024	0906_MW238_240419	EM2406724	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW238	26 Feb 2025	0906_MW238_250226	ES2506554	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	2.04	26.6	134.7	1,277	6.65	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW239	12 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Cowra	Downgradient of Gumly	7.68	19	102	1,747	7.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW239	12 Dec 2019	0906_MW239_S_191212	ES1941492-AC	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	<0.02	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW239	30 Mar 2020	0906_MW239_20200330	ES2011456	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.85	18.4	122.4	312.3	6.45	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	01 Oct 2020	0906_MW239_20201001	ES2034898	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	4.32	18	102.4	913	7.1	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	23 Apr 2021	0906_MW239_20210423	ES2116325	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	4.94	18.9	127.9	1,920	6.93	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	21 Oct 2021	0906_MW239_20211021	ES2139301	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.74	18	67.9	1,787	7.12	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	6.17	17	185.7	0.91	6.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW239	03 May 2022	0906_MW239_20220503	EM2208336	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	08 Nov 2022	0906_MW239_221108	EM2222392	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	5.88	19.3	159.4	1,627	6.69	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	18 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	6.93	17.5	147.9	1,930	6.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW239	18 Apr 2023	0906_MW239_230418	EM2306916	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	15 Oct 2023	0906_MW239_231015	EM2318609	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	4.65	18.5	145.7	1,510	6.6	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW213	28 Sep 2020	0906_MW213_20200928	ES2034885	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	28 Sep 2020	0906_QC201_20200928	749083	NSW_0906_PFASOMP	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW213	20 Apr 2021	0906_MW213_20210420	ES2116324	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW213	20 Oct 2021	0906_MW213_20211020	ES2139303	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	20 Oct 2021	0906_QC104_20211020	ES2139303	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	20 Oct 2021	0906_QC204_20211020	842910	NSW_0906_PFASOMP	Other	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW213	02 May 2022	0906_MW213_20220502	EM2208334	NSW_0906_PFASOMP	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	22 Aug 2023	EWB3	EM2315195	NSW_0906_PFASMGMT	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	12 Oct 2023	0906_MW213_231012	EM2318611	NSW_0906_PFASOMP_23	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	15 Apr 2024	0906_MW213_240415	EM2406732	NSW_0906_PFASOMP_24	Other	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW213	05 Feb 2025	0906_MW213_250205	ES2503757	NSW_0906_PFASOMP_24a	Other	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW214	15 Jun 2016	WAG_GW047279	ES1613121	ACTNSW_Hist_202009-2	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	-	-	-	<0.01
MW214	20 Jun 2017	0906_GW047279_170620	ES1715334	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	18 Jan 2018	0906_MW214_D_180118	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	31 Mar 2020	0906_MW214_20200331	ES2011568	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	01 Oct 2020	0906_MW214_20201001	ES2034891	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	27 Apr 2021	0906_MW214_20210427	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	21 Oct 2021	0906_MW214_20211021	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	03 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW214	04 May 2022	0906_MW214_20220503	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	07 Nov 2022	0906_MW214_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW214	14 Apr 2023	0906_MW214_230414	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	16 Oct 2023	0906_MW214_231016	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	17 Apr 2024	0906_MW214_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW214	05 Feb 2025	0906_MW214_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW231	12 Jan 2018	0906_MW231_D_180112	ES1802473	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	26 Mar 2020	0906_MW231_20200326	ES2011456	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	26 Mar 2020	0906_MW231_20200326	ES2011459	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	30 Sep 2020	0906_MW231_20200930	ES2034898	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	22 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	23 Apr 2021	0906_MW231_20210423	ES2116325	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	21 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	22 Oct 2021	0906_MW231_20211022	ES2139301	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	03 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	04 May 2022	0906_MW231_20220504	EM2208336	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	09 Nov 2022	0906_MW231_221109	EM2222392	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	18 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW231	18 Apr 2023	0906_MW231_230418	EM2306916	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	16 Oct 2023	0906_MW231_231016	EM2318609	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	19 Apr 2024	0906_MW231_240419	EM2406724	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW231	04 Feb 2025	0906_MW231_250204	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW233	20 Feb 2018	0906_MW233_I_180220	ES1805656	NSW_0906_PFAS	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	0.2	-	0.2
MW233	25 Mar 2020	0906_MW233_20200325	ES2011451	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.37	0.41	-	0.43
MW233	30 Sep 2020	0906_MW233_20200930	ES2034890	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.44	0.51	-	0.54
MW233	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW233	22 Apr 2021	0906_MW233_20210422	ES2116319	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.38	0.45	-	0.47
MW233	19 Oct 2021	0906_MW233_20211019	ES2139304	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.52	0.6	-	0.64
MW233	02 May 2022	0906_MW233_20220502	EM2208333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.39	0.45	-	0.47
MW233	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW233	07 Nov 2022	0906_MW233_221107	EM2222376	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.47	0.54	-	0.57
MW233	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW233	13 Apr 2023	0906_MW233_230413	EM2306918	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.41	0.48	-	0.52
MW233	16 Oct 2023	0906_MW233_231016	EM2318613	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.36	0.4	-	0.42
MW233	19 Apr 2024	0906_MW233_240419	EM2406731	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.31	0.34	-	0.36
MW233	04 Feb 2025	0906_MW233_250204	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.501	0.614	<0.005	0.672
MW235	11 Jan 2018	0906_MW235_D_180111	ES1802460	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	19 Dec 2019	0906_MW235_D_191219	ES1942606-AC	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.01	<0.01	-	-
MW235	27 Mar 2020	0906_MW235_20200327	ES2011450	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	30 Sep 2020	0906_MW235_20200930	ES2034899	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	20 Apr 2021	0906_MW235_20210420	ES2115488	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	20 Oct 2021	0906_MW235_20211020	ES2139305	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	01 May 2022	0906_MW235_20220501	EM2208341	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	07 Nov 2022	0906_MW235_221107	EM2222377	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	13 Apr 2023	0906_MW235_230413	EM2306920	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW235	05 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW235	05 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	12 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	12 Dec 2019	0906_MW238_I_191212	ES1941492-AC	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.01	<0.01	-	-
MW238	30 Mar 2020	0906_MW238_20200330	ES2011456	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	30 Sep 2020	0906_MW238_20200930	ES2034898	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	22 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	23 Apr 2021	0906_MW238_20210423	ES2116325	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	21 Oct 2021	0906_MW238_20211021	ES2139301	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	03 May 2022	0906_MW238_20220503	EM2208336	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.03	-	0.03
MW238	08 Nov 2022	0906_MW238_221108	EM2222392	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	17 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW238	18 Apr 2023	0906_MW238_230418	EM2306916	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	15 Oct 2023	0906_MW238_231015	EM2318609	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	19 Apr 2024	0906_MW238_240419	EM2406724	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW238	26 Feb 2025	0906_MW238_250226	ES2506554	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.036	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.036	<0.005	0.036
MW239	12 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW239	12 Dec 2019	0906_MW239_S_191212	ES1941492-AC	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.01	<0.01	-	-
MW239	30 Mar 2020	0906_MW239_20200330	ES2011456	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	01 Oct 2020	0906_MW239_20201001	ES2034898	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	23 Apr 2021	0906_MW239_20210423	ES2116325	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	21 Oct 2021	0906_MW239_20211021	ES2139301	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW239	03 May 2022	0906_MW239_20220503	EM2208336	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	08 Nov 2022	0906_MW239_221108	EM2222392	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	18 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW239	18 Apr 2023	0906_MW239_230418	EM2306916	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	15 Oct 2023	0906_MW239_231015	EM2318609	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area	Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										
							DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
MW239	19 Apr 2024	0906_MW239_240419	EM2406724	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW239	26 Feb 2025	0906_MW239_250226	ES2506554	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	4.84	24.7	103.8	1,870	6.94	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW240	12 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Cowra	Downgradient of Gumly	10.35	21	-1	487.3	7.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	12 Dec 2019	0906_MW240_I_191212	ES1941492-AD	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.04	-	0.21	-	0.05	-	-	<0.1	<0.02	0.06	<0.02	<0.01	-	-	-	-	-	-
MW240	12 Dec 2019	0906_QC101_191212	ES1941492-AD	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.05	-	0.29	-	0.04	-	-	<0.1	<0.02	0.08	<0.02	<0.01	-	-	-	-	-	-
MW240	18 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Cowra	Downgradient of Gumly	0.45	20.8	-292	455.3	7.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	19 Dec 2019	0906_MW240_I_191219	ES1942606-AB	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.03	-	0.17	-	0.02	-	-	<0.1	<0.02	0.04	<0.02	<0.01	-	-	-	-	-	-
MW240	19 Dec 2019	0906_QC101_191219	ES1942606-AB	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.03	-	0.17	-	0.02	-	-	<0.1	<0.02	0.05	<0.02	<0.01	-	-	-	-	-	-
MW240	19 Dec 2019	0906_QC201_191219	695221	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.02	0.01	0.11	<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
MW240	30 Mar 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	1.63	19.2	118.6	508.1	6.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	01 Apr 2020	0906_MW240_20200330	ES2011453	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.1	<0.02	0.01	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	30 Sep 2020	0906_MW240_20200930	ES2034866	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.07	18.6	88.4	303.7	6.75	-	0.04	0.05	0.35	<0.02	0.06	-	<0.02	<0.1	0.02	0.1	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	20 Apr 2021	0906_MW240_20210420	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.03	19.5	86.2	611	6.66	-	0.04	0.03	0.23	<0.02	0.04	-	<0.02	<0.1	<0.02	0.07	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	19 Oct 2021	0906_MW240_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.08	18.7	50	595	6.45	-	0.02	0.02	0.15	<0.02	0.04	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	01 May 2022	0906_MW240_20220501	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.52	20.8	-77.9	0.68	6.6	-	<0.02	0.02	0.15	<0.02	0.04	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.8	20.2	152.6	587	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	07 Nov 2022	0906_MW240_20221107	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.02	0.02	0.17	<0.02	0.04	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	17 Apr 2023	0906_MW240_230417	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	3.12	18.7	57.4	648	6.73	-	<0.02	<0.02	0.14	<0.02	0.05	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	15 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	3	17.1	114.9	394.7	6.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	16 Oct 2023	0906_MW240_231016	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.14	<0.02	0.06	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	2.11	21.7	88	497.9	6.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	20 Apr 2024	0906_MW240_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.11	<0.02	0.02	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW240	28 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	3.72	25.4	69.2	590	6.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	28 Feb 2025	0906_MW240_250228	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.015	0.015	0.116	0.004	0.005	-	<0.002	<0.01	0.01	0.028	0.004	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW241	18 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Granite	E of base	0	20.8	-113	955	11.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	31 Mar 2020	0906_MW241_20200331	ES2011462	NSW_0906_PFASOMP	Granite	E of base	3.91	20.6	81.6	212.5	6.87	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	01 Oct 2020	0906_MW241_20201001	ES2034889	NSW_0906_PFASOMP	Granite	E of base	0.99	17.7	-82.5	430	11.81	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	22 Apr 2021	0906_MW241_20210422	ES2116320	NSW_0906_PFASOMP	Granite	E of base	1.59	17.3	-209	1,012	11.92	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	24 Oct 2021	0906_MW241_20211024	ES2139236	NSW_0906_PFASOMP	Granite	E of base	1.2	19.3	-100	1,015	11.77	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	02 May 2022	0906_MW241_20220502	EM2208340	NSW_0906_PFASOMP	Granite	E of base	2.32	19.3	212.9	0.59	7.89	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	08 Nov 2022	0906_MW241_221108	EM2222383	NSW_0906_PFASOMP	Granite	E of base	0.4	20.4	-145.2	1,164	11.09	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Granite	E of base	0.51	19.8	-139.2	1,342	11.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	13 Apr 2023	0906_MW241_230413	EM2306922	NSW_0906_PFASOMP	Granite	E of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Granite	E of base	5.34	15.1	-87	1,088	11.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	13 Oct 2023	0906_MW241_231013	EM2318617	NSW_0906_PFASOMP_23	Granite	E of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	18 Apr 2024	0906_MW241_240418	EM2406729	NSW_0906_PFASOMP_24	Granite	E of base	1.46	17.4	-143.4	837	11.43	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW241	28 Feb 2025	0906_MW241_250228	ES2506583	NSW_0906_PFASOMP_24a	Granite	E of base	1.35	19.9	-204.7	761	10.64	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW242	12 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	E of base	0.26	20.6	-113	548	7.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW242	12 Mar 2020	0906_MW242_I_200312	ES2008845	NSW_0906_PFASMGMT	Upper Lachlan	E of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	31 Mar 2020	0906_MW242_20200331	ES2011462	NSW_0906_PFASOMP	Upper Lachlan	E of base	1.76	19.7	115.7	260.7	6.39	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	01 Oct 2020	0906_MW242_20201001	ES2034889	NSW_0906_PFASOMP	Upper Lachlan	E of base	0.85	18.3	-125	424.8	7.82	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	22 Apr 2021	0906_MW242_20210422	ES2116320	NSW_0906_PFASOMP	Upper Lachlan	E of base	1.35	17.1	-78.1	528.3	7.32	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	22 Oct 2021	0906_MW242_20211022	ES2139236	NSW_0906_PFASOMP	Upper Lachlan	E of base	0.95	20.1	-158.8	1,203	7.91	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	02 May 2022	0906_MW242_20220502	EM2208340	NSW_0906_PFASOMP	Upper Lachlan	E of base	0.9	19.1	1.5	0.52	7.32	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	08 Nov 2022	0906_MW242_221108	EM2222383	NSW_0906_PFASOMP	Upper Lachlan	E of base	0.27	20.9	34.3	530	7.19	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	E of base	1.03	20.9	-26.4	546	7.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW242	14 Apr 2023	0906_MW242_230414	EM2306922	NSW_0906_PFASOMP	Upper Lachlan	E of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	E of base	0.38	16.1	-45.6	406.3	7.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW242	13 Oct 2023	0906_MW242_231013	EM2318617	NSW_0906_PFASOMP_23	Upper Lachlan	E of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	18 Apr 2024	0906_MW242_240418	EM2406729	NSW_0906_PFASOMP_24	Upper Lachlan	E of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW242	28 Feb 2025	0906_MW242_250228	ES2506583	NSW_0906_PFASOMP_24a	Upper Lachlan	E of base	1.35	21.6	-178.1	547	7.16	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW242	28 Feb 2025	0906_QC101_250228	ES2506583	NSW_0906_PFASOMP_24a	Upper Lachlan	E of base	-	-	-	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW242	28 Feb 2025	0906_QC201_250228	1196147	NSW_0906_PFASOMP_24a	Upper Lachlan	E of base	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW243	10 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	Base Boundary	1.2	20.8	89	1,358	6.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	10 Mar 2020	0906_MW243_I_200310	ES2008845	NSW_0906_PFASMGMT	Upper Lachlan	Base Boundary	-	-	-	-	-	16.9	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	10 Mar 2020	0906_QC101_200310	ES2008845	NSW_0906_PFASMGMT	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	10 Mar 2020	0906_QC201_200310	707955	NSW_0906_PFASMGMT	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW243	30 Mar 2020	0906_MW243_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	9.05	19.6	89.5	521.7	7.06	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	01 Oct 2020	0906_MW243_20201001	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.5	18.3	143	713	6.67	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	22 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.3	19.5	154	1,295	6.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	23 Apr 2021	0906_MW243_20210423	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	23 Apr 2021	0906_QC106_20210423	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	23 Apr 2021	0906_QC206_20210423	792771	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW243	20 Oct 2021	0906_MW243_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.62	21.5	121	1,296	6.74	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	02 May 2022	0906_MW243_20220502	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.06	18.9	34.6	1.24	6.47	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.86	19.9	191.8	1,133	6.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	07 Nov 2022	0906_MW243_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	07 Nov 2022	0906_QC103_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	07 Nov 2022	0906_QC203_221107	940477	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW243	16 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	1.73	20.2	100.1	1,327	6.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	17 Apr 2023	0906_MW243_230417	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	1.58	16.9	131.5	1,199	6.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	14 Oct 2023	0906_MW243_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	14 Oct 2023	0906_QC100_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	14 Oct 2023	0906_QC200_231014	1036478	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW243	16 Apr 2024	0906_QC204_240417	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW243	17 Apr 2024	0906_MW243_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	17 Apr 2024	0906_QC104_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW243	06 Feb 2025	0906_MW243_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary	1.4	23.5	136.3	1,263	6.5	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW244	04 Jan 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	1.69	25.7	138.1	2,491	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	13 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Lower Lachlan	Downgradient of Gumly	6.88	19.5	60	171.7	6.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	13 Mar 2020	0906_MW244_I_200313	ES2009442	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	01 Apr 2020	0906_MW244_20200401	ES2011562	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	01 Oct 2020	0906_MW244_20201001	ES2034866	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	2.12	17.3	-77	127.7	6.96	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	19 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	1.48	18	-166.2	235	7.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	20 Apr 2021	0906_MW244_20210420	ES2116333	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	19 Oct 2021	0906_MW244_20211019	ES2139237	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	1.14	18.9	-124.2	234	6.7	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	03 May 2022	0906_MW244_20220503	EM2208150	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	0.98	19.3	-2.2	0.274	6.94	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	1	19.3	130.7	202.1	6.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	09 Nov 2022	0906_MW244_20221109	EM2222399	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	14 Apr 2023	0906_MW244_230414	EM2306921	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	1.15	20.4	15.8	173.1	6.85	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	16 Aug 2023	0906_MW244_230816	EM2314805	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	14 Oct 2023	0906_MW244_231014	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	1.42	18	147.8	405.8	6.26	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	14 Oct 2023	0906_QC102_231014	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	14 Oct 2023	0906_QC202_231014	1036481	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<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
MW244	20 Apr 2024	0906_MW244_240420	EM2406730	NSW_0906_PFASOMP_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW244	25 Feb 2025	0906_MW244_250225	ES2506594	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	1.78	22.1	154.2	210.4	6.67	-	<0.002	<0.002	<0.002	<0.002	0.003	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW245	04 Jan 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	26.8	19.4	78.6	1,596	6.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW239	19 Apr 2024	0906_MW239_240419	EM2406724	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW239	26 Feb 2025	0906_MW239_250226	ES2506554	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW240	12 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	12 Dec 2019	0906_MW240_I_191212	ES1941492-AD	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.26	0.36	-	-
MW240	12 Dec 2019	0906_QC101_191212	ES1941492-AD	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.33	0.46	-	-
MW240	18 Dec 2019	Field Record Only	N/A	NSW_0906_PFAS	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	19 Dec 2019	0906_MW240_I_191219	ES1942606-AB	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.19	0.26	-	-
MW240	19 Dec 2019	0906_QC101_191219	ES1942606-AB	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.19	0.27	-	-
MW240	19 Dec 2019	0906_QC201_191219	695221	NSW_0906_PFASMGMT	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.18	-	0.19
MW240	30 Mar 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	01 Apr 2020	0906_MW240_20200330	ES2011453	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.14	-	0.14
MW240	30 Sep 2020	0906_MW240_20200930	ES2034866	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.41	0.59	-	0.64
MW240	20 Apr 2021	0906_MW240_20210420	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.27	0.39	-	0.42
MW240	19 Oct 2021	0906_MW240_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	0.26	-	0.28
MW240	01 May 2022	0906_MW240_20220501	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	0.23	-	0.25
MW240	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	07 Nov 2022	0906_MW240_20221107	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.28	-	0.3
MW240	17 Apr 2023	0906_MW240_230417	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	0.23	-	0.23
MW240	15 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	16 Oct 2023	0906_MW240_231016	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	0.23	-	0.23
MW240	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	20 Apr 2024	0906_MW240_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.13	0.16	-	0.16
MW240	28 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW240	28 Feb 2025	0906_MW240_250228	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.121	0.183	<0.005	0.202
MW241	18 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Granite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	31 Mar 2020	0906_MW241_20200331	ES2011462	NSW_0906_PFASOMP	Granite	<0.05	0.15	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.15	-	0.15
MW241	01 Oct 2020	0906_MW241_20201001	ES2034889	NSW_0906_PFASOMP	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	22 Apr 2021	0906_MW241_20210422	ES2116320	NSW_0906_PFASOMP	Granite	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.12	-	0.12
MW241	24 Oct 2021	0906_MW241_20211024	ES2139236	NSW_0906_PFASOMP	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	02 May 2022	0906_MW241_20220502	EM2208340	NSW_0906_PFASOMP	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	08 Nov 2022	0906_MW241_221108	EM2222383	NSW_0906_PFASOMP	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Granite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	13 Apr 2023	0906_MW241_230413	EM2306922	NSW_0906_PFASOMP	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Granite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW241	13 Oct 2023	0906_MW241_231013	EM2318617	NSW_0906_PFASOMP_23	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	18 Apr 2024	0906_MW241_240418	EM2406729	NSW_0906_PFASOMP_24	Granite	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW241	28 Feb 2025	0906_MW241_250228	ES2506583	NSW_0906_PFASOMP_24a	Granite	<0.005	0.112	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.112	<0.005	0.112
MW242	12 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW242	12 Mar 2020	0906_MW242_I_200312	ES2008845	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	31 Mar 2020	0906_MW242_20200331	ES2011462	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	01 Oct 2020	0906_MW242_20201001	ES2034889	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	22 Apr 2021	0906_MW242_20210422	ES2116320	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	22 Oct 2021	0906_MW242_20211022	ES2139236	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	02 May 2022	0906_MW242_20220502	EM2208340	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	08 Nov 2022	0906_MW242_221108	EM2222383	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW242	14 Apr 2023	0906_MW242_230414	EM2306922	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	12 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW242	13 Oct 2023	0906_MW242_231013	EM2318617	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	18 Apr 2024	0906_MW242_240418	EM2406729	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW242	28 Feb 2025	0906_MW242_250228	ES2506583	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.012	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.012	<0.005	0.012
MW242	28 Feb 2025	0906_QC101_250228	ES2506583	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.01	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.01	<0.005	0.01
MW242	28 Feb 2025	0906_QC201_250228	1196147	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.001	0.008	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.008	-	0.008
MW243	10 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	10 Mar 2020	0906_MW243_I_200310	ES2008845	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	10 Mar 2020	0906_QC101_200310	ES2008845	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	10 Mar 2020	0906_QC201_200310	707955	NSW_0906_PFASMGMT	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW243	30 Mar 2020	0906_MW243_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	01 Oct 2020	0906_MW243_20201001	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	22 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	23 Apr 2021	0906_MW243_20210423	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	23 Apr 2021	0906_QC106_20210423	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	23 Apr 2021	0906_QC206_20210423	792771	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW243	20 Oct 2021	0906_MW243_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	02 May 2022	0906_MW243_20220502	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	07 Nov 2022	0906_MW243_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	07 Nov 2022	0906_QC103_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	07 Nov 2022	0906_QC203_221107	940477	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.05	-	<0.1
MW243	16 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	17 Apr 2023	0906_MW243_230417	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW243	14 Oct 2023	0906_MW243_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	14 Oct 2023	0906_QC100_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	14 Oct 2023	0906_QC200_231014	1036478	NSW_0906_PFASOMP_23	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW243	16 Apr 2024	0906_QC204_240417	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW243	17 Apr 2024	0906_MW243_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	17 Apr 2024	0906_QC104_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW243	06 Feb 2025	0906_MW243_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW244	04 Jan 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	13 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	13 Mar 2020	0906_MW244_I_200313	ES2009442	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	01 Apr 2020	0906_MW244_20200401	ES2011562	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	01 Oct 2020	0906_MW244_20201001	ES2034866	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	19 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	20 Apr 2021	0906_MW244_20210420	ES2116333	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	19 Oct 2021	0906_MW244_20211019	ES2139237	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	03 May 2022	0906_MW244_20220503	EM2208150	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW244	09 Nov 2022	0906_MW244_20221109	EM2222399	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	14 Apr 2023	0906_MW244_230414	EM2306921	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	16 Aug 2023	0906_MW244_230816	EM2314805	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	14 Oct 2023	0906_MW244_231014	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	14 Oct 2023	0906_QC102_231014	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	14 Oct 2023	0906_QC202_231014	1036481	NSW_0906_PFASOMP_23	Lower Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW244	20 Apr 2024	0906_MW244_240420	EM2406730	NSW_0906_PFASOMP_24	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW244	25 Feb 2025	0906_MW244_250225	ES2506594	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.003	0.003	<0.005	0.003
MW245	04 Jan 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area	DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
							Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
MW245	13 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Cowra	Downgradient of Gumly	4.86	19.4	-20	626	6.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	13 Mar 2020	0906_MW245_S_200313	ES2009442	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	01 Apr 2020	0906_MW245_20200401	ES2011562	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	01 Oct 2020	0906_MW245_20201001	ES2034866	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.7	17.4	157.9	327.6	6.71	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	19 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.39	16.9	198.8	430.9	6.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	20 Apr 2021	0906_MW245_20210420	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	19 Oct 2021	0906_MW245_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.05	18.3	45	614	6.29	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	30 Apr 2022	0906_MW245_20220430	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	0.65	17.4	88.7	0.74	6.16	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	0.47	18.6	141.6	339	6.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	09 Nov 2022	0906_MW245_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	14 Apr 2023	0906_MW245_230414	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	0.92	19.3	-10.3	610	6.26	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	16 Aug 2023	0906_MW245_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	14 Oct 2023	0906_MW245_231014	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	0.13	17.9	123.6	1,064	5.77	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	20 Apr 2024	0906_MW245_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW245	25 Feb 2025	0906_MW245_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	2.23	24	103.5	962	6.11	-	0.003	<0.002	0.006	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW245	25 Feb 2025	0906_QC101_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.004	<0.002	0.004	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW245	25 Feb 2025	0906_QC201_250225	1196147	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.002	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW246	22 Jun 2020	0906_MW246_I_200622	ES2021594	NSW_0906_PFASMGMT	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	30 Jul 2020	0906_MW246_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	30 Jul 2020	0906_QC102_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	30 Jul 2020	0906_QC202_200730	735782	NSW_0906_PFASMGMT	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<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
MW246	20 Apr 2021	0906_MW246_20210420	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	1.84	19.2	-27.1	451.8	6.83	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	2.24	18.1	-84.3	395	6.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW246	20 Oct 2021	0906_MW246_20211020	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	01 May 2022	0906_MW246_20220501	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	2.49	18	-114.5	0.456	6.76	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	0.51	19.7	55.2	391.1	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW246	07 Nov 2022	0906_MW246_20221107	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	15 Apr 2023	0906_MW246_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	1.16	19.8	29.3	466	6.64	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	16 Oct 2023	0906_MW246_231016	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	N & NW of base	1.01	17.6	13	3,810	6.71	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	17 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Upper Lachlan	N & NW of base	0.77	21.3	129.2	408.9	6.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW246	20 Apr 2024	0906_MW246_240420	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	N & NW of base	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW246	07 Feb 2025	0906_MW246_250207	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	N & NW of base	0.69	24.1	-100.7	508.2	6.55	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW247	30 Jul 2020	0906_MW247_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	27 Apr 2021	0906_MW247_20210427	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.59	15.6	118.6	2,342	6.59	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.1	16.8	-70.2	983	7.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW247	21 Oct 2021	0906_MW247_20211021	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	02 May 2022	0906_MW247_20220502	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.86	17.4	-33.1	0.63	7.09	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	09 Nov 2022	0906_MW247_20221109	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.06	22.5	-22.2	1,058	6.98	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	15 Apr 2023	0906_MW247_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	1.96	19.1	-59.6	969	10.87	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	16 Aug 2023	0906_MW247_230816	EM2314805	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	0.74	19.1	-523.5	745	11.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW247	15 Oct 2023	0906_MW247_231015	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	18 Apr 2024	0906_MW247_240418	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW247	25 Feb 2025	0906_MW247_250225	ES2506594	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	2.41	23	25.4	1,016	8.88	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW248	30 Jul 2020	0906_MW248_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.09	-	<0.02	<0.1	0.04	0.04	0.02	0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	27 Apr 2021	0906_MW248_20210427	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	0.67	17.5	-107	1,160	7.23	-	<0.02	<0.02	0.05	<0.02	0.07	-	<0.02	<0.1	0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	1.51	15.5	-52.2	991	7.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW248	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.75	16.4	139.5	1,875	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW248	20 Oct 2021	0906_MW248_20211020	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.08	-	<0.02	<0.1	0.03	0.03	<0.02	0.01	0.03	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	02 May 2022	0906_MW248_20220502	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.02	18	22.4	2.32	6.72	-	<0.02	<0.02	0.04	<0.02	0.06	-	<0.02	<0.1	0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	09 Nov 2022	0906_MW248_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	1.49	22.3	84.2	2,151	6.45	-	<0.02	<0.02	0.05	<0.02	0.07	-	<0.02	<0.1	0.03	0.03	<0.02	<0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	15 Apr 2023	0906_MW248_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	1.61	19.2	149.4	1,951	6.59	-	<0.02	<0.02	0.06	<0.02	0.07	-	<0.02	<0.1	0.04	0.03	<0.02	0.01	0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	11 Aug 2023	0906_QC201_230816	1018084	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.01	0.01	0.1	<0.01	0.11	<0.01	<0.01	<0.05	0.04	0.04	0.03	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
MW248	16 Aug 2023	0906_MW248_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.1	-	<0.02	<0.1	0.04	0.04	0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	16 Aug 2023	0906_QC101_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.08	-	0.1	-	-	<0.1	0.04	0.04	0.02	0.01	-	-	-	-	-	-
MW248	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	2.28	19.4	95.7	1,423	6.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW248	15 Oct 2023	0906_MW248_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.07	<0.02	0.08	-	<0.02	<0.1	0.04	0.04	0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	18 Apr 2024	0906_MW248_240418	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.08	-	<0.02	<0.1	0.05	0.04	0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW248	25 Feb 2025	0906_MW248_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	2.65	21.6	109.6	1,815	6.74	-	0.018	0.016	0.14	0.007	0.173	-	<0.002	0.03	0.071	0.073	0.034	0.02	0.033	<0.002	<0.002	<0.002	<0.002	<0.005
MW249	30 Jul 2020	0906_MW249_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	28 Apr 2021	0906_MW249_20210428	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1	18.4	118	458	6.42	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.87	18.7	25.1	285.7	6.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.87	18.7	25.1	285.7	6.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	21 Oct 2021	0906_MW249_20211021	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	30 Apr 2022	0906_MW249_20220430	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	9.07	19.4	610.7	0.001	5.84	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.42	17.4	166.8	221.8	6.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	09 Nov 2022	0906_MW249_20221109	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	15 Apr 2023	0906_MW249_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	0.96	19.7	147	321	6.03	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	16 Aug 2023	0906_MW249_230816	EM2314805	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	0.91	16	-262.2	679	5.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	15 Oct 2023	0906_MW249_231015	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	05 Mar 2024	0906_MW249_240305	EM2403604	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	20 Apr 2024	0906_MW249_240420	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW249	25 Feb 2025	0906_MW249_250225	ES2506606	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	2.1	24.4	74.7	788	6.32	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW250	30 Jul 2020	0906_MW250_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	0.03	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	02 Sep 2020	0906_QC202_200902	742937	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.01	<0.01	0.04	<0.01	0.06	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW250	03 Sep 2020	0906_MW250_S_200902	ES2031377	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	28 Apr 2021	0906_MW250_20210428	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.67	19.6	112.2	655	6.74	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	0.03	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	28 Apr 2021	0906_QC107_20210428	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	0.03	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	28 Apr 2021	0906_QC207_20210428	792804	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW250	19 Oct 2021	0906_MW250_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.1	18.7	142	837	6.57	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	30 Apr 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.01	18.4	59.9	0.79	6.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.44	16.7	166.8	636	6.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	09 Nov 2022	0906_MW250_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	15 Apr 2023	0906_MW250_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	3.55	18.4	122.8	675	6.47	-	<0.02	<0.02	0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	16 Aug 2023	0906_MW250_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	3	16.5	-195	509	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	15 Oct 2023	0906_MW250_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.01	<0.02	<0.01	-	<0.02	<0.1	0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	04 Mar 2024	0906_MW250_240304	EM2403604	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	0.05	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	20 Apr 2024	0906_MW250_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW250	25 Feb 2025	0906_MW250_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	2.88	25.2	55.7	743	6.55	-	0.005	0.003	0.03	<0.002	0.01	-	<0.002	0.02	0.058	0.04	0.012	0.006	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW251	30 Jul 2020	0906_MW251_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	30 Jul 2020	0906_QC101_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	30 Jul 2020	0906_QC201_200730	735782	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<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
MW251	22 Apr 2021	0906_MW251_20210422	ES2118542	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	1.32	17.2	-4.5	754	5.97	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.1	19.1	-31.5	627	6.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW251	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	1.17	18.4	2.9	533	6.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW251	21 Oct 2021	0906_MW251_20211021	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW245	13 Mar 2020	Field Record Only	N/A	NSW_0906_PFAS	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	13 Mar 2020	0906_MW245_S_200313	ES2009442	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW245	01 Apr 2020	0906_MW245_20200401	ES2011562	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW245	01 Oct 2020	0906_MW245_20201001	ES2034866	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW245	19 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	20 Apr 2021	0906_MW245_20210420	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW245	19 Oct 2021	0906_MW245_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	30 Apr 2022	0906_MW245_20220430	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW245	09 Nov 2022	0906_MW245_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	14 Apr 2023	0906_MW245_230414	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	16 Aug 2023	0906_MW245_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	14 Oct 2023	0906_MW245_231014	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	20 Apr 2024	0906_MW245_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW245	25 Feb 2025	0906_MW245_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.006	0.009	<0.005	0.009
MW245	25 Feb 2025	0906_QC101_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.008	<0.005	0.008
MW245	25 Feb 2025	0906_QC201_250225	1196147	NSW_0906_PFASOMP_24a	Cowra	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.004	0.006	-	0.006
MW246	22 Jun 2020	0906_MW246_I_200622	ES2021594	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	30 Jul 2020	0906_MW246_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	30 Jul 2020	0906_QC102_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	30 Jul 2020	0906_QC202_200730	735782	NSW_0906_PFASMGMT	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW246	20 Apr 2021	0906_MW246_20210420	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW246	20 Oct 2021	0906_MW246_20211020	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	01 May 2022	0906_MW246_20220501	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW246	07 Nov 2022	0906_MW246_20221107	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	15 Apr 2023	0906_MW246_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	16 Oct 2023	0906_MW246_231016	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	17 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW246	20 Apr 2024	0906_MW246_240420	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW246	07 Feb 2025	0906_MW246_250207	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW247	30 Jul 2020	0906_MW247_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	27 Apr 2021	0906_MW247_20210427	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW247	21 Oct 2021	0906_MW247_20211021	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	02 May 2022	0906_MW247_20220502	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	09 Nov 2022	0906_MW247_20221109	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	15 Apr 2023	0906_MW247_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	16 Aug 2023	0906_MW247_230816	EM2314805	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW247	15 Oct 2023	0906_MW247_231015	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	18 Apr 2024	0906_MW247_240418	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW247	25 Feb 2025	0906_MW247_250225	ES2506594	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW248	30 Jul 2020	0906_MW248_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.26	-	0.28
MW248	27 Apr 2021	0906_MW248_20210427	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.14	-	0.14
MW248	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW248	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW248	20 Oct 2021	0906_MW248_20211020	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.21	-	0.24
MW248	02 May 2022	0906_MW248_20220502	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.12	-	0.12
MW248	09 Nov 2022	0906_MW248_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.18	-	0.2
MW248	15 Apr 2023	0906_MW248_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.13	0.21	-	0.23
MW248	11 Aug 2023	0906_QC201_230816	1018084	NSW_0906_PFASMGMT	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.34	-	0.37
MW248	16 Aug 2023	0906_MW248_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	0.29	-	0.29
MW248	16 Aug 2023	0906_QC101_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.18	0.29	-	-
MW248	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW248	15 Oct 2023	0906_MW248_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.26	-	0.26
MW248	18 Apr 2024	0906_MW248_240418	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.28	-	0.28
MW248	25 Feb 2025	0906_MW248_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.313	0.559	<0.005	0.615
MW249	30 Jul 2020	0906_MW249_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	28 Apr 2021	0906_MW249_20210428	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	21 Oct 2021	0906_MW249_20211021	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	30 Apr 2022	0906_MW249_20220430	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	09 Nov 2022	0906_MW249_20221109	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	15 Apr 2023	0906_MW249_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	16 Aug 2023	0906_MW249_230816	EM2314805	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW249	15 Oct 2023	0906_MW249_231015	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	05 Mar 2024	0906_MW249_240305	EM2403604	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	20 Apr 2024	0906_MW249_240420	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW249	25 Feb 2025	0906_MW249_250225	ES2506606	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW250	30 Jul 2020	0906_MW250_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.08	-	0.08
MW250	02 Sep 2020	0906_QC202_200902	742937	NSW_0906_PFASMGMT	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.14	-	0.14
MW250	03 Sep 2020	0906_MW250_S_200902	ES2031377	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.07	-	0.07
MW250	28 Apr 2021	0906_MW250_20210428	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.08	-	0.08
MW250	28 Apr 2021	0906_QC107_20210428	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.08	-	0.08
MW250	28 Apr 2021	0906_QC207_20210428	792804	NSW_0906_PFASOMP	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	0.06	-	<0.1
MW250	19 Oct 2021	0906_MW250_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.04	-	0.04
MW250	30 Apr 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	09 Nov 2022	0906_MW250_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
MW250	15 Apr 2023	0906_MW250_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
MW250	16 Aug 2023	0906_MW250_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW250	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW250	15 Oct 2023	0906_MW250_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.03	-	0.03
MW250	04 Mar 2024	0906_MW250_240304	EM2403604	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.1	-	0.1
MW250	20 Apr 2024	0906_MW250_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW250	25 Feb 2025	0906_MW250_250225	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.04	0.181	<0.005	0.184
MW251	30 Jul 2020	0906_MW251_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	30 Jul 2020	0906_QC101_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	30 Jul 2020	0906_QC201_200730	735782	NSW_0906_PFASMGMT	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW251	22 Apr 2021	0906_MW251_20210422	ES2118542	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	19 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW251	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW251	21 Oct 2021	0906_MW251_20211021	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

							Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area	DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
MW251	30 Apr 2022	0906_MW251_20220430	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	0.84	18	21.7	0.54	6.12	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	17 Apr 2023	0906_MW251_230417	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	0.84	16.6	-30.7	858	6.01	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	16 Aug 2023	0906_MW251_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	1.03	15.1	33	400	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW251	15 Oct 2023	0906_MW251_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	15 Oct 2023	0906_QC105_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	15 Oct 2023	0906_QC205_231015	1036481	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<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
MW251	04 Mar 2024	0906_MW251_240304	EM2403604	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	20 Apr 2024	0906_MW251_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	1.16	17.7	50.4	433.7	5.66	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW251	27 Feb 2025	0906_MW251_250227	ES2506606	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	1.19	21.9	36	412.2	5.61	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW252	30 Jul 2020	0906_MW252_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	22 Apr 2021	0906_MW252_20210422	ES2118542	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.27	16.2	58	544.5	6.1	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	19 Oct 2021	0906_MW252_20211019	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.3	18.7	84.4	389	5.84	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	30 Apr 2022	0906_MW252_20220430	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.52	18.3	182.4	0.239	6	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	16 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	0.82	16.2	83.9	541	6.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	17 Apr 2023	0906_MW252_230417	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	16 Aug 2023	0906_MW252_230816	EM2314805	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	0.87	15.9	-14.7	391.3	5.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	15 Oct 2023	0906_MW252_231015	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	04 Mar 2024	0906_MW252_240304	EM2403604	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	19 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	2.59	16.5	141.9	329.1	6.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	20 Apr 2024	0906_MW252_240420	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW252	27 Feb 2025	0906_MW252_250227	ES2506606	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	1.36	22.1	149.9	373	6.14	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW253	30 Jul 2020	0906_MW253_I_200730	ES2026752	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	20 Apr 2021	0906_MW253_20210420	ES2116333	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	3.13	18.1	73	421	6.64	-	<0.02	<0.02	0.04	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	18 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	2.33	17.9	130	271.7	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	18 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	2.33	17.9	130	271.7	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	19 Oct 2021	0906_MW253_20211019	ES2139237	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	19 Oct 2021	0906_QC102_20211019	ES2139237	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	19 Oct 2021	0906_QC202_20211019	842903	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.01	<0.01	0.04	<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
MW253	30 Apr 2022	0906_MW253_20220430	EM2208150	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	4.98	17.5	138.6	0.195	6.32	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	2.05	17.7	175.5	3,269	6.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	07 Nov 2022	0906_MW253_20221107	EM2222399	NSW_0906_PFASOMP	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	17 Apr 2023	0906_MW253_230417	EM2306921	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	1.98	17.4	86.4	414.4	6.75	-	<0.02	<0.02	0.02	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	16 Aug 2023	0906_MW253_230816	EM2314805	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	2.41	18.1	38.5	312.2	6.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	15 Oct 2023	0906_MW253_231015	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	15 Oct 2023	0906_QC106_231015	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.06	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	15 Oct 2023	0906_QC206_231015	1036481	NSW_0906_PFASOMP_23	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.01	<0.01	0.06	<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
MW253	19 Dec 2023	0906_MW253_231219	EM2322880	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.07	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	20 Apr 2024	0906_MW253_240420	EM2406730	NSW_0906_PFASOMP_24	Lower Lachlan	Downgradient of Gumly	2.93	18.3	217	294	6.3	-	<0.02	<0.02	0.05	<0.02	0.1	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW253	07 Nov 2024	0906_MW253_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.003	0.003	0.018	<0.002	0.013	-	<0.002	<0.01	<0.002	0.004	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW253	07 Nov 2024	0906_QC102_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.003	0.002	0.022	<0.002	0.011	-	<0.002	<0.01	<0.002	0.003	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW253	06 Feb 2025	0906_MW253_250106	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.002	0.004	0.026	<0.002	0.015	-	<0.002	<0.01	<0.002	0.004	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW253	07 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	3.18	20.1	-23.1	426.3	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	30 Jul 2020	0906_MW254_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.02	0.03	0.15	<0.02	<0.01	-	<0.02	<0.1	0.04	0.07	0.06	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	20 Apr 2021	0906_MW254_20210420	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.04	0.03	0.19	<0.02	<0.01	-	<0.02	<0.1	0.03	0.06	0.05	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	4.12	-	82.4	345	6.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	18 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.65	18.3	112	308	6.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	19 Oct 2021	0906_MW254_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.02	0.02	0.13	<0.02	<0.01	-	<0.02	<0.1	0.02	0.04	0.04	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	19 Oct 2021	0906_QC101_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.02	0.02	0.14	<0.02	<0.01	-	<0.02	<0.1	0.03	0.05	0.05	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	19 Oct 2021	0906_QC201_20211019	842903	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.02	0.02	0.14	<0.01	<0.01	<0.01	<0.01	<0.05	0.03	0.05	0.05	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW254	30 Apr 2022	0906_MW254_20220430	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	4.35	16	156.6	0.171	6.09	-	0.03	0.03	0.2	<0.02	0.13	-	<0.02	<0.1	0.08	0.09	0.08	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.86	18	187.4	285.6	5.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	07 Nov 2022	0906_MW254_20221107	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	0.02	0.12	<0.02	0.02	-	<0.02	<0.1	<0.02	0.04	0.03	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	17 Apr 2023	0906_MW254_230417	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	4.36	17.2	150.9	351.6	6.17	-	<0.02	<0.02	0.12	<0.02	0.02	-	<0.02	<0.1	<0.02	0.04	0.04	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	16 Aug 2023	0906_MW254_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.13	<0.02	0.32	-	<0.02	<0.1	0.04	0.05	0.04	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	3.97	18.5	92.1	288.9	5.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	15 Oct 2023	0906_MW254_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.13	<0.02	0.27	-	<0.02	<0.1	0.04	0.05	0.04	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	19 Dec 2023	0906_MW254_231219	EM2322880	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.11	<0.02	0.26	-	<0.02	<0.1	0.04	0.06	0.04	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	4.07	18.3	216.6	284.5	5.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	20 Apr 2024	0906_MW254_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.12	<0.02	0.3	-	<0.02	<0.1	0.04	0.05	0.04	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW254	07 Nov 2024	0906_MW254_241107	ES2436595	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.015	0.016	0.126	0.014	0.247	-	<0.002	0.03	0.053	0.052	0.043	0.196	0.007	<0.002	<0.002	<0.002	<0.002	<0.005
MW254	06 Feb 2025	0906_MW254_250106	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.016	0.015	0.143	0.013	0.16	-	<0.002	0.02	0.077	0.065	0.051	0.19	0.006	<0.002	<0.002	<0.002	<0.002	<0.005
MW254	07 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	4.33	19.3	-4	320	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	30 Jul 2020	0906_MW255_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.99	13.9	110	1,098	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	22 Apr 2021	0906_MW255_20210422	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.02	<0.02	0.1	<0.02	0.04	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	02 Jul 2021	Field Record Only	N/A	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	1.16	16.4	244	1,145	6.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	19 Oct 2021	0906_MW255_20211019	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.19	18.8	-58	706	6.38	-	<0.02	<0.02	0.04	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	30 Apr 2022	0906_MW255_20220430	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	1.38	18	-5.1	0.75	6.71	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	0.95	20	173	709	6.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	08 Nov 2022	0906_MW255_20221108	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	08 Nov 2022	0906_QC106_20221108	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	08 Nov 2022	0906_QC206_221108	940477	NSW_0906_PFASOMP	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	0.04	<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
MW255	15 Apr 2023	0906_MW255_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	1.12	21	-3.1	924	6.46	-	<0.02	<0.02	0.05	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	16 Oct 2023	0906_MW255_231016	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	0.93	16.9	11.3	625	6.42	-	<0.02	<0.02	0.04	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	0.74	19.3	73.6	840	6.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	17 Apr 2024	0906_MW255_240417	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW255	28 Feb 2025	0906_MW255_250228	ES2506594	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	1.96	22.8	51	1,022	6.61	-	0.006	0.006	0.043	<0.002	0.019	-	<0.002	<0.01	0.006	0.015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW256	10 Sep 2020	0906_MW256_S_200910	ES2032277	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.05	0.05	0.28	<0.02	0.04	-	<0.02	<0.1	<0.02	0.09	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	10 Sep 2020	0906_QC101_200910	ES2032277	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.06	-	0.3	-	0.02	-	-	<0.1	<0.02	0.1	<0.02	<0.01	-	-	-	-	-	-
MW256	10 Sep 2020	0906_QC201_200910	744316	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	-	-	0.21	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW256	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.15	16.4	120.7	1,379	6.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	22 Apr 2021	0906_MW256_20210422	ES2116333	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.07	0.04	0.23	<0.02	0.07	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	19 Oct 2021	0906_MW256_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.93	18.7	183.9	1,395	6.57	-	<0.02	<0.02	0.09	<0.02	0.01	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	01 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	2.75	15.9	19.2	1.51	6.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	02 May 2022	0906_MW256_20220502	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	1.52	20.3	165.6	1,426	6.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	08 Nov 2022	0906_MW256_20221108	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	15 Apr 2023	0906_MW256_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	1.36	20.1	1.2	1,660	6.51	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	16 Oct 2023	0906_MW256_231016	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	2.64	16.9	106	1,162	6.34	-	<0.02	<0.02	0.05	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	5.9	19.2	93.2	1,153	6.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	17 Apr 2024	0906_MW256_240417	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.12	<0.02	0.03	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW256	28 Feb 2025	0906_MW256_250228	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	3.88	23	52.8	1,556	6.64	-	0.02	0.02	0.114	0.005	0.017	-	<0.002	<0.01	0.008	0.034	0.003	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW257	10 Sep 2020	0906_MW257_S_200910	ES2032277	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW257	01 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	4.37	15.3	57.8	3.62	6.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	02 May 2022	0906_MW257_20220502	EM2208150	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW251	30 Apr 2022	0906_MW251_20220430	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	17 Apr 2023	0906_MW251_230417	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	16 Aug 2023	0906_MW251_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW251	15 Oct 2023	0906_MW251_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	15 Oct 2023	0906_QC105_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	15 Oct 2023	0906_QC205_231015	1036481	NSW_0906_PFASOMP_23	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW251	04 Mar 2024	0906_MW251_240304	EM2403604	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	20 Apr 2024	0906_MW251_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW251	27 Feb 2025	0906_MW251_250227	ES2506606	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW252	30 Jul 2020	0906_MW252_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	22 Apr 2021	0906_MW252_20210422	ES2118542	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	19 Oct 2021	0906_MW252_20211019	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	30 Apr 2022	0906_MW252_20220430	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	16 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	17 Apr 2023	0906_MW252_230417	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	16 Aug 2023	0906_MW252_230816	EM2314805	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	15 Oct 2023	0906_MW252_231015	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.12	-	0.12
MW252	04 Mar 2024	0906_MW252_240304	EM2403604	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	19 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW252	20 Apr 2024	0906_MW252_240420	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW252	27 Feb 2025	0906_MW252_250227	ES2506606	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.006	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.006	<0.005	0.006
MW253	30 Jul 2020	0906_MW253_I_200730	ES2026752	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW253	20 Apr 2021	0906_MW253_20210420	ES2116333	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW253	18 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	18 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	19 Oct 2021	0906_MW253_20211019	ES2139237	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW253	19 Oct 2021	0906_QC102_20211019	ES2139237	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW253	19 Oct 2021	0906_QC202_20211019	842903	NSW_0906_PFASOMP	Lower Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06	-	<0.1
MW253	30 Apr 2022	0906_MW253_20220430	EM2208150	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW253	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	07 Nov 2022	0906_MW253_20221107	EM2222399	NSW_0906_PFASOMP	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW253	17 Apr 2023	0906_MW253_230417	EM2306921	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW253	16 Aug 2023	0906_MW253_230816	EM2314805	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.12	-	0.12
MW253	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW253	15 Oct 2023	0906_MW253_231015	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08	-	0.08
MW253	15 Oct 2023	0906_QC106_231015	EM2318614	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.12	-	0.12
MW253	15 Oct 2023	0906_QC206_231015	1036481	NSW_0906_PFASOMP_23	Lower Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.11	-	0.11
MW253	19 Dec 2023	0906_MW253_231219	EM2322880	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.13	-	0.13
MW253	20 Apr 2024	0906_MW253_240420	EM2406730	NSW_0906_PFASOMP_24	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.15	-	0.15
MW253	07 Nov 2024	0906_MW253_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.031	0.041	<0.005	0.044
MW253	07 Nov 2024	0906_QC102_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.005	0.006	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.033	0.048	<0.005	0.05
MW253	06 Feb 2025	0906_MW253_250106	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.041	0.05	<0.005	0.054
MW253	07 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	30 Jul 2020	0906_MW254_S_200730	ES2026752	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.48	-	0.51
MW254	20 Apr 2021	0906_MW254_20210420	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	0.51	-	0.54
MW254	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	18 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	19 Oct 2021	0906_MW254_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.13	0.41	-	0.43
MW254	19 Oct 2021	0906_QC101_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.41	-	0.43
MW254	19 Oct 2021	0906_QC201_20211019	842903	NSW_0906_PFASOMP	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	0.42	-	0.44
MW254	30 Apr 2022	0906_MW254_20220430	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.33	0.86	-	0.89
MW254	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	07 Nov 2022	0906_MW254_20221107	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.31	-	0.33
MW254	17 Apr 2023	0906_MW254_230417	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.32	-	0.32
MW254	16 Aug 2023	0906_MW254_230816	EM2314805	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.45	0.72	-	0.72
MW254	14 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	15 Oct 2023	0906_MW254_231015	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.4	0.67	-	0.67
MW254	19 Dec 2023	0906_MW254_231219	EM2322880	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.37	0.66	-	0.66
MW254	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW254	20 Apr 2024	0906_MW254_240420	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.42	0.7	-	0.7
MW254	07 Nov 2024	0906_MW254_241107	ES2436595	NSW_0906_PFASMGMT_24	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.373	0.762	<0.005	0.799
MW254	06 Feb 2025	0906_MW254_250106	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.303	0.722	<0.005	0.756
MW254	07 Feb 2025	Field Record Only	N/A	NSW_0906_PFASOMP_24a	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	30 Jul 2020	0906_MW255_I_200730	ES2026752	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.06	-	0.06
MW255	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	22 Apr 2021	0906_MW255_20210422	ES2116333	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.16	-	0.16
MW255	02 Jul 2021	Field Record Only	N/A	NSW_0906_PFASMGMT	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	19 Oct 2021	0906_MW255_20211019	ES2139237	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW255	30 Apr 2022	0906_MW255_20220430	EM2208150	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW255	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	08 Nov 2022	0906_MW255_20221108	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
MW255	08 Nov 2022	0906_QC106_20221108	EM2222399	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
MW255	08 Nov 2022	0906_QC206_221108	940477	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	0.06	-	<0.1
MW255	15 Apr 2023	0906_MW255_230415	EM2306921	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
MW255	16 Oct 2023	0906_MW255_231016	EM2318614	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW255	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW255	17 Apr 2024	0906_MW255_240417	EM2406730	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11	-	0.11
MW255	28 Feb 2025	0906_MW255_250228	ES2506594	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.006	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.062	0.095	<0.005	0.101
MW256	10 Sep 2020	0906_MW256_S_200910	ES2032277	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.32	0.46	-	0.51
MW256	10 Sep 2020	0906_QC101_200910	ES2032277	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.32	0.48	-	-
MW256	10 Sep 2020	0906_QC201_200910	744316	NSW_0906_PFASMGMT	Cowra	-	<0.05	-	-	-	-	-	-	-	-	-	0.21	-	-	-
MW256	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	22 Apr 2021	0906_MW256_20210422	ES2116333	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.3	0.42	-	0.46
MW256	19 Oct 2021	0906_MW256_20211019	ES2139237	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.12	-	0.12
MW256	01 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	02 May 2022	0906_MW256_20220502	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06	-	0.06
MW256	07 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	08 Nov 2022	0906_MW256_20221108	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW256	15 Apr 2023	0906_MW256_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW256	16 Oct 2023	0906_MW256_231016	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW256	16 Apr 2024	Field Record Only	N/A	NSW_0906_PFASOMP_24	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW256	17 Apr 2024	0906_MW256_240417	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.18	-	0.18
MW256	28 Feb 2025	0906_MW256_250228	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.131	0.2	<0.005	0.225
MW257	10 Sep 2020	0906_MW257_S_200910	ES2032277	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW257	01 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	02 May 2022	0906_MW257_20220502	EM2208150	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area	Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										
							DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
MW257	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	3.9	19.4	115.8	3,339	6.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	09 Nov 2022	0906_MW257_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW257	15 Apr 2023	0906_MW257_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	4.68	20.1	150.9	4,200	6.37	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW257	15 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	5.81	15.4	135.4	3,002	5.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	16 Oct 2023	0906_MW257_231016	EM2318614	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW257	17 Apr 2024	0906_MW257_240417	EM2406730	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	5.46	19.6	214.4	3,332	6.31	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW257	28 Feb 2025	0906_MW257_250228	ES2506594	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	5.04	22.2	49.2	3,986	6.43	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW258	11 Aug 2023	0906_MW258_230811	EM2314653	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW258	11 Aug 2023	0906_QC101_230811	EM2314653	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.02	-	0.02	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW258	11 Aug 2023	0906_QC201_230811	1017202	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	-	-	0.02	-	0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW258	12 Oct 2023	0906_MW258_231012	EM2318611	NSW_0906_PFASOMP_23	Upper Lachlan	Downgradient of Gumly	1.53	16.5	55.7	1,425	11.72	-	<0.02	<0.02	0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW258	13 Dec 2023	0906_QC201_231213	1055053	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	-	-	0.03	-	0.02	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW258	19 Dec 2023	0906_MW258_231219	EM2322880	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.01	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW258	19 Dec 2023	0906_QC101_231219	EM2322880	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.03	-	0.02	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW258	22 Jan 2024	0906_MW258_240122	ES2402411	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW258	22 Jan 2024	0906_QC101_240122	ES2402411	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.04	-	0.02	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW258	22 Jan 2024	0906_QC201_240122	1062741	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.01	<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
MW258	04 Mar 2024	0906_MW258_240304	EM2403604	NSW_0906_PFASMGMT	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW258	19 Apr 2024	0906_MW258_240419	EM2406732	NSW_0906_PFASOMP_24	Upper Lachlan	Downgradient of Gumly	1.1	17.6	248.4	763	6.72	-	<0.02	<0.02	0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW258	07 Nov 2024	0906_MW258_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.007	0.004	0.022	<0.002	0.014	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.005
MW258	05 Feb 2025	0906_MW258_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	1.13	19.5	-51	1,006	6.64	-	0.004	0.006	0.037	<0.002	0.014	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.005
MW258	05 Feb 2025	0906_QC101_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.003	0.008	0.04	<0.002	0.014	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.005
MW259	11 Aug 2023	0906_MW259_230811	EM2314653	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.02	-	<0.02	<0.1	0.02	0.02	0.03	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW259	11 Aug 2023	0906_QC102_230811	EM2314653	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.03	-	0.02	-	-	<0.1	<0.02	<0.02	0.02	0.02	-	-	-	-	-	-
MW259	11 Aug 2023	0906_QC202_230811	1017202	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	-	-	0.04	-	0.03	-	-	-	-	-	-	0.01	-	-	-	-	-	-
MW259	12 Oct 2023	0906_MW259_231012	EM2318611	NSW_0906_PFASOMP_23	Cowra	Downgradient of Gumly	4.64	16.4	130.6	645	6.68	-	<0.02	<0.02	0.04	<0.02	0.02	-	<0.02	<0.1	<0.02	0.02	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW259	19 Dec 2023	0906_MW259_231219	EM2322880	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW259	22 Jan 2024	0906_MW259_240122	ES2402411	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.04	-	<0.02	<0.1	<0.02	<0.02	0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW259	04 Mar 2024	0906_MW259_240304	EM2403604	NSW_0906_PFASMGMT	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW259	19 Apr 2024	0906_MW259_240419	EM2406732	NSW_0906_PFASOMP_24	Cowra	Downgradient of Gumly	3.18	18	228.9	451	5.51	-	<0.02	<0.02	0.02	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW259	07 Nov 2024	0906_MW259_241107	ES2436595	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.009	0.003	0.026	<0.002	0.123	-	<0.002	0.02	0.012	0.009	0.012	0.009	0.003	0.002	<0.002	<0.002	<0.002	<0.005
MW259	05 Feb 2025	0906_MW259_250205	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	1.33	20.4	-87.5	754	6.52	-	0.017	0.003	0.037	<0.002	0.088	-	<0.002	0.04	0.025	0.012	0.021	0.009	0.004	0.003	<0.002	<0.002	<0.002	<0.005
MW260	13 Oct 2023	0906_MW260_231013	EM2318610	NSW_0906_PFASOMP_23	Lower Lachlan	Drinking Water Supply Bore	6.19	18	34.6	188.7	6.7	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW260	26 Jan 2024	0906_MW260_240126	EM2401164	NSW_0906_PFASMGMT	Lower Lachlan	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW260	01 Feb 2024	0906_MW260_240201	EM2401498	NSW_0906_PFASMGMT	Lower Lachlan	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW260	01 Feb 2024	0906_QC101_240201	EM2401498	NSW_0906_PFASMGMT	Lower Lachlan	Drinking Water Supply Bore	-	-	-	-	-	-	<0.02	-	<0.01	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW260	01 Feb 2024	0906_QC201_240201	1065747	NSW_0906_PFASMGMT	Lower Lachlan	Drinking Water Supply Bore	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW260	19 Apr 2024	0906_MW260_240419	EM2406723	NSW_0906_PFASOMP_24	Lower Lachlan	Drinking Water Supply Bore	4.33	19.3	111.7	211.7	6.61	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW260	04 Feb 2025	0906_MW260_250204	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	Drinking Water Supply Bore	3.78	21.5	-33.2	235	6.43	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW261	06 Mar 2024	0906_MW261_240304	EM2403604	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW261	06 Mar 2024	0906_QC201_240306	1076564	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW261	13 Mar 2024	0906_MW261_240313	EM2403958	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW261	13 Mar 2024	0906_QC101_240313	EM2405058	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	<0.01	-	<0.01	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW261	13 Mar 2024	0906_QC201_240313	1078767	NSW_0906_PFASMGMT	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	-	-	<0.01	-	<0.01	-	-	-	-	-	-	<0.01	-	-	-	-	-	-
MW261	07 Nov 2024	0906_MW261_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.002	<0.002	0.004	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW261	05 Feb 2025	0906_MW261_250205	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	0.63	21.1	-100.7	379.2	6.59	-	<0.002	<0.002	0.004	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW262	03 Oct 2024	0906_MW262_241003	ES2432686	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.18	0.18	0.71	<0.02	<0.01	<0.02	<0.02	<0.1	0.04	0.21	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW262	07 Nov 2024	0906_MW262_241107	ES2436595	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.174	0.181	0.624	0.003	0.013	-	<0.002	0.03	0.037	0.199	0.025	0.019	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW262	05 Feb 2025	0906_MW262_250205	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	5.12	21	-15.4	870	6.42	-	0.252	0.324	1.18	0.005	0.009	-	<0.002	0.08	0.101	0.323	0.049	0.034	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW263	03 Oct 2024	0906_MW263_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.04	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW263	03 Oct 2024	0906_QC101_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.04	<0.02	0.06	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW263	07 Nov 2024	0906_MW263_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.05	0.042	0.145	0.002	0.017	-	<0.002	0.02	0.014	0.048	0.011	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW263	05 Feb 2025	0906_MW263_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	0.89	20.8	-149.9	663	10.66	-	0.05	0.055	0.237	<0.002	0.016	-	<0.002	0.05	0.032	0.072	0.019	0.009	0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW264	03 Oct 2024	0906_MW264_241003	ES2432686	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW264	07 Nov 2024	0906_MW264_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.038	<0.002	0.011	<0.002	0.008	-	<0.002	<0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW264	05 Feb 2025	0906_MW264_250205	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	0.73	21.4	-114.3	432.5	7.34	-	<0.002	<0.002	0.016	<0.002	0.005	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW265	03 Oct 2024	0906_MW265_241003	ES2432686	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW265	07 Nov 2024	0906_MW265_241107	ES2437293	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW265	06 Feb 2025	0906_MW265_240206	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	3.21	20.4	100.5	1,462	6.45	-	0.002	0.003	0.019	<0.002	0.017	-	<0.002	<0.01	0.009	0.005	0.008	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW266	03 Oct 2024	0906_MW266_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.01	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW266	07 Nov 2024	0906_MW266_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.003	<0.002	0.011	<0.002	0.009	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW266	06 Feb 2025	0906_MW266_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	1.35	20.5	126.7	1,015	6.55	-	<0.002	<0.002	0.013	<0.002	0.008	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW267	03 Oct 2024	0906_MW267_241003	ES2432686	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW267	07 Nov 2024	0906_MW267_241107	ES2437293	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.003	<0.02	0.017	<0.02	0.003	<0.02	<0.02	<0.01	0.005	0.005	0.003	0.003	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW267	07 Nov 2024	0906_MW267_241107	ES2437293	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.02	-	<0.01	-	-	-	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-
MW267	06 Feb 2025	0906_MW267_240206	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	2.83	20.9	130.6	270.3	6.48	-	0.003	0.003	0.023	<0.002	0.014	-	<0.002	<0.01	0.005	0.006	0.003	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW268	03 Oct 2024	0906_MW268_241003	ES2432686	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW268	07 Nov 2024	0906_MW268_241107	ES2437293	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	0.007	<0.02	0.026	<0.02	<0.002	<0.02	<0.02	<0.01	0.003	0.008	<0.002	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW268	07 Nov 2024	0906_MW268_241107	ES2437293	NSW_0906_PFASMGMT_24	Cowra	Downgradient of Gumly	-	-	-	-	-	-	<0.02	-	0.03	-	-	-	-	-	<0.02	<0.02	-	-	-	-	-	-	-	-
MW268	06 Feb 2025	0906_MW268_240206	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Downgradient of Gumly	4.54	22.1	-31.7	976	5.79	-	0.005	0.004	0.026	<0.002	<0.002	-	<0.002	<0.01	0.003	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW269	03 Oct 2024	0906_MW269_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.03	<0.02	0.16	<0.02	0.06	<0.02	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW269	07 Nov 2024	0906_MW269_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.013	0.015	0.114	0.006	0.044	-	<0.002	<0.01	0.004	0.022	0.004	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW269	07 Nov 2024	0906_QC101_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	Downgradient of Gumly	-	-	-	-	-	-	0.014	0.016	0.115	0.006	0.045	-	<0.002	<0.01	0.006	0.024	0.005	0.009	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW269	06 Feb 2025	0906_MW269_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Downgradient of Gumly	1.27	22.7	-54.6	739	6.2	-	0.012	0.014	0.126	0.006	0.038	-	<0.002	<0.01	0.006	0.026	0.004	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW270	03 Oct 2024	0906_MW270_241003	ES2432686	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW270	07 Nov 2024	0906_MW270_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	Downgradient of Gumly	-	-	-	-	-	-	<0.002	<0.002	0.004	<0.002	0.003	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW270	06 Feb 2025	0906_MW270_240206	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	Downgradient of Gumly	1.87	22.5	-108.2	282.1	6.39	-	<0.002	<0.002	0.004	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW300	12 Jan 2018	0906_MW300_D_180112	ES1802545	NSW_0906_PFAS	Upper Lachlan	Base Boundary	5.06	21.74	88.4	1,705	6.4	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	13 Apr 2018	0906_MW300_D_180413	EM1806331	NSW_0906_PFAS	Upper Lachlan	Base Boundary	5.23	19.7	246.5	1,325	6.27	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	30 Mar 2020	0906_MW300_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.77	18.8	129.7	684	7.75	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	29 Sep 2020	0906_MW300_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.75	17.5	172.1	1,598	6.55	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	20 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	4.24	14	154.5	1,523	6.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.71	14.5	147.7	1,522	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	22 Apr 2021	0906_MW300_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	22 Apr 2021	0906_QC105_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	22 Apr 2021	0906_QC205_20210422	792803	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW300	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.05	19.8	100	1,246	6.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	20 Oct 2021	0906_MW300_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.04	<0.02	0.05	<0.02	<0.01	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	20 Oct 2021	0906_QC106_20211020	ES2139231	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.05	19.8	100	1,246	6.34	-	0.04	<0.02	0.05	<0.02	<0.01	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	20 Oct 2021	0906_QC206_211020	837704	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.04	0.02	0.07	<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
MW300	30 Apr 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	5.36	15.8	228.5	0.7	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	01 May 2022	0906_MW300_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.05	0.03	0.1	<0.02	<0.01	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	01 May 2022	0906_QC102_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.06	0.03	0.1	<0.02	<0.01	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	01 May 2022	0906_QC202_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.08	0.03	0.13	<0.01	<0.01	<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
MW300	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.27	19.2	195.5	1,258	6.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	07 Nov 2022	0906_MW300_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.1	0.04	0.13	<0.02	<0.01	-	<0.02	<0.1	0.02	0.06	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	15 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	3.12	20.2	165.3	1,430	6.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	15 Apr 2023	0906_MW300_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.11	0.06	0.14	<0.02	0.01	-	<0.02	<0.1	0.03	0.08	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW257	08 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW257	09 Nov 2022	0906_MW257_20221109	EM2222399	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW257	15 Apr 2023	0906_MW257_230415	EM2306921	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW257	15 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-		-	-	-
MW257	16 Oct 2023	0906_MW257_231016	EM2318614	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW257	17 Apr 2024	0906_MW257_240417	EM2406730	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW257	28 Feb 2025	0906_MW257_250228	ES2506594	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW258	11 Aug 2023	0906_MW258_230811	EM2314653	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW258	11 Aug 2023	0906_QC101_230811	EM2314653	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.04	0.04	-	-
MW258	11 Aug 2023	0906_QC201_230811	1017202	NSW_0906_PFASMGMT	Upper Lachlan	-	<0.05	-	-	-	-	-	-	-	-	-	0.03	-	-	-
MW258	12 Oct 2023	0906_MW258_231012	EM2318611	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW258	13 Dec 2023	0906_QC201_231213	1055053	NSW_0906_PFASMGMT	Upper Lachlan	-	<0.05	-	-	-	-	-	-	-	-	-	0.05	-	-	-
MW258	19 Dec 2023	0906_MW258_231219	EM2322880	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
MW258	19 Dec 2023	0906_QC101_231219	EM2322880	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.05	0.05	-	-
MW258	22 Jan 2024	0906_MW258_240122	ES2402411	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06	-	0.06
MW258	22 Jan 2024	0906_QC101_240122	ES2402411	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.06	0.06	-	-
MW258	22 Jan 2024	0906_QC201_240122	1062741	NSW_0906_PFASMGMT	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.05	-	<0.1
MW258	04 Mar 2024	0906_MW258_240304	EM2403604	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW258	19 Apr 2024	0906_MW258_240419	EM2406732	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
MW258	07 Nov 2024	0906_MW258_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.036	0.043	<0.005	0.05
MW258	05 Feb 2025	0906_MW258_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.051	0.055	<0.005	0.065
MW258	05 Feb 2025	0906_QC101_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.054	0.057	<0.005	0.069
MW259	11 Aug 2023	0906_MW259_230811	EM2314653	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.14	-	0.14
MW259	11 Aug 2023	0906_QC102_230811	EM2314653	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.05	0.09	-	-
MW259	11 Aug 2023	0906_QC202_230811	1017202	NSW_0906_PFASMGMT	Cowra	-	<0.05	-	-	-	-	-	-	-	-	-	0.07	-	-	-
MW259	12 Oct 2023	0906_MW259_231012	EM2318611	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.12	-	0.12
MW259	19 Dec 2023	0906_MW259_231219	EM2322880	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW259	22 Jan 2024	0906_MW259_240122	ES2402411	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.09	0.11	-	0.11
MW259	04 Mar 2024	0906_MW259_240304	EM2403604	NSW_0906_PFASMGMT	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06	-	0.06
MW259	19 Apr 2024	0906_MW259_240419	EM2406732	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
MW259	07 Nov 2024	0906_MW259_241107	ES2436595	NSW_0906_PFASMGMT_24	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.149	0.22	<0.005	0.228
MW259	05 Feb 2025	0906_MW259_250205	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.125	0.249	<0.005	0.259
MW260	13 Oct 2023	0906_MW260_231013	EM2318610	NSW_0906_PFASOMP_23	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW260	26 Jan 2024	0906_MW260_240126	EM2401164	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW260	01 Feb 2024	0906_MW260_240201	EM2401498	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW260	01 Feb 2024	0906_QC101_240201	EM2401498	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.01	<0.01	-	-
MW260	01 Feb 2024	0906_QC201_240201	1065747	NSW_0906_PFASMGMT	Lower Lachlan	-	<0.05	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
MW260	19 Apr 2024	0906_MW260_240419	EM2406723	NSW_0906_PFASOMP_24	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW260	04 Feb 2025	0906_MW260_250204	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW261	06 Mar 2024	0906_MW261_240304	EM2403604	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW261	06 Mar 2024	0906_QC201_240306	1076564	NSW_0906_PFASMGMT	Lower Lachlan	-	<0.05	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
MW261	13 Mar 2024	0906_MW261_240313	EM2403958	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW261	13 Mar 2024	0906_QC101_240313	EM2405058	NSW_0906_PFASMGMT	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	<0.01	<0.01	-	-
MW261	13 Mar 2024	0906_QC201_240313	1078767	NSW_0906_PFASMGMT	Lower Lachlan	-	<0.05	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
MW261	07 Nov 2024	0906_MW261_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW261	05 Feb 2025	0906_MW261_250205	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW262	03 Oct 2024	0906_MW262_241003	ES2432686	NSW_0906_PFASMGMT_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.71	1.18	<0.05	1.43
MW262	07 Nov 2024	0906_MW262_241107	ES2436595	NSW_0906_PFASMGMT_24	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.637	1.12	<0.005	1.38
MW262	05 Feb 2025	0906_MW262_250205	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	1.19	2.03	<0.005	2.45
MW263	03 Oct 2024	0906_MW263_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.09	0.13	<0.05	0.13
MW263	03 Oct 2024	0906_QC101_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.12	<0.05	0.12
MW263	07 Nov 2024	0906_MW263_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.162	0.313	<0.005	0.377
MW263	05 Feb 2025	0906_MW263_250205	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.253	0.485	<0.005	0.562
MW264	03 Oct 2024	0906_MW264_241003	ES2432686	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	<0.05	0.01
MW264	07 Nov 2024	0906_MW264_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.005	0.078	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.019	0.137	<0.005	0.137
MW264	05 Feb 2025	0906_MW264_250205	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.021	0.021	<0.005	0.021
MW265	03 Oct 2024	0906_MW265_241003	ES2432686	NSW_0906_PFASMGMT_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	<0.05	0.03
MW265	07 Nov 2024	0906_MW265_241107	ES2437293	NSW_0906_PFASMGMT_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	<0.05	0.04
MW265	06 Feb 2025	0906_MW265_240206	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.036	0.064	<0.005	0.067
MW266	03 Oct 2024	0906_MW266_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	<0.05	0.02
MW266	07 Nov 2024	0906_MW266_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.02	0.023	<0.005	0.023
MW266	06 Feb 2025	0906_MW266_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.022	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.021	0.043	<0.005	0.043
MW267	03 Oct 2024	0906_MW267_241003	ES2432686	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	<0.05	0.04
MW267	07 Nov 2024	0906_MW267_241107	ES2437293	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	<0.05	0.02
MW267	07 Nov 2024	0906_MW267_241107	ES2437293	NSW_0906_PFASMGMT_24	Lower Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	0.039	-	-
MW267	06 Feb 2025	0906_MW267_240206	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.037	0.058	<0.005	0.061
MW268	03 Oct 2024	0906_MW268_241003	ES2432686	NSW_0906_PFASMGMT_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	<0.05	0.04
MW268	07 Nov 2024	0906_MW268_241107	ES2437293	NSW_0906_PFASMGMT_24	Cowra	<0.005	<0.005	<0.005	<0.005	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.026	0.03	<0.05	0.03
MW268	07 Nov 2024	0906_MW268_241107	ES2437293	NSW_0906_PFASMGMT_24	Cowra	-	-	-	-	-	-	-	-	-	-	-	0.03	0.044	-	-
MW268	06 Feb 2025	0906_MW268_240206	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.026	0.041	<0.005	0.045
MW269	03 Oct 2024	0906_MW269_241003	ES2432686	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.22	0.27	<0.05	0.27
MW269	07 Nov 2024	0906_MW269_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.158	0.209	<0.005	0.23
MW269	07 Nov 2024	0906_QC101_241107	ES2436595	NSW_0906_PFASMGMT_24	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.16	0.218	<0.005	0.24
MW269	06 Feb 2025	0906_MW269_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.164	0.219	<0.005	0.239
MW270	03 Oct 2024	0906_MW270_241003	ES2432686	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
MW270	07 Nov 2024	0906_MW270_241107	ES2436595	NSW_0906_PFASMGMT_24	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.007	0.007	<0.005	0.007
MW270	06 Feb 2025	0906_MW270_240206	ES2503757	NSW_0906_PFASOMP_24a	Lower Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW300	12 Jan 2018	0906_MW300_D_180112	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW300	13 Apr 2018	0906_MW300_D_180413	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW300	30 Mar 2020	0906_MW300_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW300	29 Sep 2020	0906_MW300_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW300	20 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	22 Apr 2021	0906_MW300_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW300	22 Apr 2021	0906_QC105_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW300	22 Apr 2021	0906_QC205_20210422	792803	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.05	-	<0.1
MW300	20 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	20 Oct 2021	0906_MW300_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.18	-	0.18
MW300	20 Oct 2021	0906_QC106_20211020	ES2139231	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.12	-	0.12
MW300	20 Oct 2021	0906_QC206_211020	837704	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.15	-	0.17
MW300	30 Apr 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	01 May 2022	0906_MW300_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.19	-	0.22
MW300	01 May 2022	0906_QC102_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.2	-	0.23
MW300	01 May 2022	0906_QC202_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.29	-	0.34
MW300	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	07 Nov 2022	0906_MW300_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.13	0.31	-	0.35
MW300	15 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	15 Apr 2023	0906_MW300_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.37	-	0.43

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area	Field: DO (Field)	Field: Temperature (Field)	Field: Redox Potential (Field)	Field: Electrical Conductivity (field)	Field: pH (Field)	Field: Turbidity	PFAS - Perfluoroalkyl Sulfonic Acids: Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	Perfluorodecane sulfonic acid (PFDS)	PFAS - Perfluoroalkyl Carboxylic Acids: 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)
							mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL												0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)													1		0.03		0.008							0.2						
PFAS NEMP 2025 Freshwater 95%																	0.13							220						
PFAS NEMP 2025 Recreational water quality guideline															2		2							10						
MW300	15 Apr 2023	0906_QC103_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.12	0.05	0.13	<0.02	0.01	-	<0.02	<0.1	0.03	0.09	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	15 Apr 2023	0906_QC203_230415	982807	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.14	0.06	0.18	<0.01	0.02	<0.01	<0.01	<0.05	0.03	0.1	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW300	24 Jul 2023	0906_QC101_230724	ES2325226	NSW_0906_PFASMGMT	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.19	-	0.2	-	0.02	-	-	<0.1	0.04	0.13	<0.02	<0.01	-	-	-	-	-	-
MW300	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	3.26	17.4	137.5	1,270	6.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	14 Oct 2023	0906_MW300_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.14	0.06	0.16	<0.02	0.02	-	<0.02	<0.1	0.03	0.1	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	17 Apr 2024	0906_MW300_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	4.7	19.8	194.1	1,134	6.25	-	0.1	0.04	0.13	<0.02	0.02	-	<0.02	<0.1	<0.02	0.06	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW300	06 Feb 2025	0906_MW300_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary	3.03	22.9	155.7	1,564	6.27	-	0.056	0.023	0.083	<0.002	0.007	-	<0.002	<0.01	0.017	0.043	0.004	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW300	06 Feb 2025	0906_QC101_250206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary	-	-	-	-	-	-	0.071	0.03	0.101	<0.002	0.008	-	<0.002	<0.01	0.016	0.05	0.005	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW302	12 Jan 2018	0906_MW302_D_180112	ES1802545	NSW_0906_PFAS	Upper Lachlan	FTP & former fire station	6.48	21.95	100.2	902	6.55	-	<0.02	<0.02	<0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	11 Apr 2018	0906_MW302_D_180411	EM1806331	NSW_0906_PFAS	Upper Lachlan	FTP & former fire station	0.51	20.8	38.8	470.7	6.44	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	30 Mar 2020	0906_MW302_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	0.85	21.5	90.5	1,198	6.89	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	29 Sep 2020	0906_MW302_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	29 Sep 2020	0906_QC102_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	29 Sep 2020	0906_QC202_20200929	749220	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	2.82	19.6	155.6	881	6.55	-	<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
MW302	21 Apr 2021	0906_MW302_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	3.04	17.1	142.2	946	6.54	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	21 Apr 2021	0906_QC103_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	21 Apr 2021	0906_QC203_20210421	792803	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<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
MW302	20 Oct 2021	0906_MW302_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	20 Oct 2021	0906_QC107_20211020	ES2139231	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	2.34	20	93	838	6.4	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	20 Oct 2021	0906_QC207_211020	837704	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<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
MW302	01 May 2022	0906_MW302_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	8.68	18	242.5	0.002	7.04	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	01 May 2022	0906_QC105_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	01 May 2022	0906_QC205_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<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
MW302	07 Nov 2022	0906_MW302_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	07 Nov 2022	0906_QC104_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	07 Nov 2022	0906_QC204_221107	940477	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	2.56	22.9	140.1	939	6.46	-	<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
MW302	15 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	FTP & former fire station	3.52	20.7	160.5	987	6.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW302	15 Apr 2023	0906_MW302_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	15 Apr 2023	0906_QC104_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	15 Apr 2023	0906_QC204_230415	982807	NSW_0906_PFASOMP	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<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
MW302	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	FTP & former fire station	1.83	18.6	129.4	663	6.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW302	14 Oct 2023	0906_MW302_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	14 Oct 2023	0906_QC101_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	14 Oct 2023	0906_QC201_231014	1036478	NSW_0906_PFASOMP_23	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<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
MW302	16 Apr 2024	0906_QC205_240417	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<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
MW302	17 Apr 2024	0906_MW302_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	FTP & former fire station	3.73	21.1	150.9	834	6.33	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	17 Apr 2024	0906_QC105_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	FTP & former fire station	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW302	06 Feb 2025	0906_MW302_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	FTP & former fire station	2.59	23.8	139.7	624	6.54	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW304	16 Jan 2018	0906_MW304_D_180116	ES1802545	NSW_0906_PFAS	Upper Lachlan	Base Boundary	6.24	21	-71.1	922	7.551	-	<0.02	<0.02	<0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	13 Apr 2018	0906_MW304_D_180413	EM1806331	NSW_0906_PFAS	Upper Lachlan	Base Boundary	1.98	22.8	146.5	872	7.12	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	31 Mar 2020	0906_MW304_20200331	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	0.84	20.92	-168	645	7.85	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	29 Sep 2020	0906_MW304_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.2	20.8	-44.8	1,609	6.93	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	27 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.64	13.1	96.5	1,793	7.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW304	28 Apr 2021	0906_MW304_20210428	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	20 Oct 2021	0906_MW304_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.27	20.1	1,123	1,732	7.45	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	01 May 2022	0906_MW304_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.26	18.4	-81.4	1.78	6.95	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	01 May 2022	0906_QC104_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	01 May 2022	0906_QC204_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW304	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	0.62	20.7	142.2	1,616	6.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW304	07 Nov 2022	0906_MW304_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	0.07	17.5	75.6	2,014	6.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW304	15 Apr 2023	0906_MW304_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	14 Oct 2023	0906_MW304_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	0.07	18.2	159.4	1,369	7.01	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	16 Apr 2024	0906_QC207_240419	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW304	19 Apr 2024	0906_MW304_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	19 Apr 2024	0906_QC107_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW304	27 Feb 2025	0906_MW304_250227	ES2506606	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary	1.49	22.1	120.3	1,895	6.92	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW306	16 Jan 2018	0906_MW306_D_180116	ES1802545	NSW_0906_PFAS	Upper Lachlan	Base Boundary	6.92	23	-64.4	366.4	9.93	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	12 Apr 2018	0906_MW306_D_180412	EM1806331	NSW_0906_PFAS	Upper Lachlan	Base Boundary	7.42	19.8	43.5	3	10.54	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	30 Mar 2020	0906_MW306_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.7	19.7	19.2	527.6	7.89	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	29 Sep 2020	0906_MW306_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	0.95	19.7	58.1	1,282	9.54	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	22 Apr 2021	0906_MW306_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.3	16.2	-16	932	8.63	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	22 Oct 2021	0906_MW306_20211022	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	0.81	20.8	53.2	1,868	7.14	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	02 May 2022	0906_MW306_20220502	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	0.57	19.6	4.7	2.27	7.01	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	07 Nov 2022	0906_MW306_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.66	22.8	127.6	2,085	6.93	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	0.57	19.5	22.3	2,333	0.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW306	14 Apr 2023	0906_MW306_230414	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	14 Apr 2023	0906_QC101_230414	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	14 Apr 2023	0906_QC201_230414	982807	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW306	18 Jul 2023	0906_QC101_20230718	EM2313057	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	3.56	14.2	-2.6	1,767	6.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW306	16 Oct 2023	0906_MW306_231016	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	19 Apr 2024	0906_MW306_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	2.01	20.4	244.5	1,827	6.86	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW306	28 Feb 2025	0906_MW306_250228	ES2506586	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary	1.51	19.4	-154.8	2,313	6.93	-	<0.002	<0.002	<0.002	<0.002	0.002	-	<0.002	<0.01	0.011	0.005	0.012	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW308	15 Jan 2018	0906_MW308_D_180115	ES1802545	NSW_0906_PFAS	Upper Lachlan	Base Boundary	4.07	21.9	-85.1	855	6.96	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	15 Jan 2018	0906_QC103_180115	ES1802545	NSW_0906_PFAS	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	15 Jan 2018	0906_QC203_180115	581313	NSW_0906_PFAS	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW308	11 Apr 2018	0906_MW308_D_180411	EM1806331	NSW_0906_PFAS	Upper Lachlan	Base Boundary	1.81	21.9	31.1	838	6.86	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	30 Mar 2020	0906_MW308_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	4.21	17.3	-59.9	224.6	8.14	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	29 Sep 2020	0906_MW308_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	1.45	21	-15.6	693	6.52	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.4	14.4	146	707	6.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW308	21 Apr 2021	0906_MW308_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.75	18.8	117.5	701	6.35	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	22 Apr 2021	0906_MW308_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	21 Oct 2021	0906_MW308_20211021	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.76	20.3	47.5	621	6.45	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	01 May 2022	0906_MW308_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	3.72	19.8	140.1	0.364	7.89	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	01 May 2022	0906_QC103_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	01 May 2022	0906_QC203_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW308	07 Nov 2022	0906_MW308_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	07 Nov 2022	0906_QC105_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	07 Nov 2022	0906_QC205_221107	940477	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.85	21.9	153.4	645	6.17	-	<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
MW308	16 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	4.14	18.1	132.4	720	6.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW308	17 Apr 2023	0906_MW308_230417	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	17 Apr 2023	0906_QC106_230417	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	17 Apr 2023	0906_QC206_230417	982807	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	-	-	-	-	-	-	<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
MW308	14 Oct 2023	0906_MW308_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary	3.02	18.4	145	660	6.08	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	17 Apr 2024	0906_MW308_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary	2.13	20.9	131.5	378.6	6.35	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW308	06 Feb 2025	0906_MW308_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary	3	24.8	139.4	716	6.36	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW309	21 Apr 2021	0906_MW309_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary	2.28	21.6	-57.2	2,020	6.89	-	<0.02	<0.02	<0.02	<0.02	0.04	-	<0.02	<0.1	<0.02	0.03	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW300	15 Apr 2023	0906_QC103_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.38	-	0.43
MW300	15 Apr 2023	0906_QC203_230415	982807	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2	0.48	-	0.59
MW300	24 Jul 2023	0906_QC101_230724	ES2325226	NSW_0906_PFASMGMT	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	0.22	0.58	-	-
MW300	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW300	14 Oct 2023	0906_MW300_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	0.45	-	0.51
MW300	17 Apr 2024	0906_MW300_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.31	-	0.39
MW300	06 Feb 2025	0906_MW300_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.09	0.212	<0.005	0.255
MW300	06 Feb 2025	0906_QC101_250206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.109	0.254	<0.005	0.304
MW302	12 Jan 2018	0906_MW302_D_180112	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
MW302	11 Apr 2018	0906_MW302_D_180411	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	30 Mar 2020	0906_MW302_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	29 Sep 2020	0906_MW302_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	29 Sep 2020	0906_QC102_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	29 Sep 2020	0906_QC202_20200929	749220	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	21 Apr 2021	0906_MW302_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	21 Apr 2021	0906_QC103_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	21 Apr 2021	0906_QC203_20210421	792803	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	20 Oct 2021	0906_MW302_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	20 Oct 2021	0906_QC107_20211020	ES2139231	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	20 Oct 2021	0906_QC207_211020	837704	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	01 May 2022	0906_MW302_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	01 May 2022	0906_QC105_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	01 May 2022	0906_QC205_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	07 Nov 2022	0906_MW302_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	07 Nov 2022	0906_QC104_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	07 Nov 2022	0906_QC204_221107	940477	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	15 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW302	15 Apr 2023	0906_MW302_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	15 Apr 2023	0906_QC104_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	15 Apr 2023	0906_QC204_230415	982807	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW302	14 Oct 2023	0906_MW302_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	14 Oct 2023	0906_QC101_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	14 Oct 2023	0906_QC201_231014	1036478	NSW_0906_PFASOMP_23	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	16 Apr 2024	0906_QC205_240417	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW302	17 Apr 2024	0906_MW302_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	17 Apr 2024	0906_QC105_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW302	06 Feb 2025	0906_MW302_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW304	16 Jan 2018	0906_MW304_D_180116	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	0.15	0.01	0.09	-	0.24
MW304	13 Apr 2018	0906_MW304_D_180413	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	31 Mar 2020	0906_MW304_20200331	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.06	-	0.06
MW304	29 Sep 2020	0906_MW304_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	27 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW304	28 Apr 2021	0906_MW304_20210428	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	20 Oct 2021	0906_MW304_20211020	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	01 May 2022	0906_MW304_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	01 May 2022	0906_QC104_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	01 May 2022	0906_QC204_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW304	06 Nov 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW304	07 Nov 2022	0906_MW304_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW304	15 Apr 2023	0906_MW304_230415	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	14 Oct 2023	0906_MW304_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	16 Apr 2024	0906_QC207_240419	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW304	19 Apr 2024	0906_MW304_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	19 Apr 2024	0906_QC107_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW304	27 Feb 2025	0906_MW304_250227	ES2506606	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW306	16 Jan 2018	0906_MW306_D_180116	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.08	-	0.08
MW306	12 Apr 2018	0906_MW306_D_180412	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	30 Mar 2020	0906_MW306_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	29 Sep 2020	0906_MW306_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	22 Apr 2021	0906_MW306_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	22 Oct 2021	0906_MW306_20211022	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	02 May 2022	0906_MW306_20220502	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	07 Nov 2022	0906_MW306_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	14 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW306	14 Apr 2023	0906_MW306_230414	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	14 Apr 2023	0906_QC101_230414	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	14 Apr 2023	0906_QC201_230414	982807	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW306	18 Jul 2023	0906_QC101_20230718	EM2313057	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	13 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW306	16 Oct 2023	0906_MW306_231016	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	19 Apr 2024	0906_MW306_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW306	28 Feb 2025	0906_MW306_250228	ES2506586	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.022	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.002	0.052	<0.005	0.052
MW308	15 Jan 2018	0906_MW308_D_180115	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	15 Jan 2018	0906_QC103_180115	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	15 Jan 2018	0906_QC203_180115	581313	NSW_0906_PFAS	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW308	11 Apr 2018	0906_MW308_D_180411	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	30 Mar 2020	0906_MW308_20200330	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	29 Sep 2020	0906_MW308_20200929	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW308	21 Apr 2021	0906_MW308_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	22 Apr 2021	0906_MW308_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	21 Oct 2021	0906_MW308_20211021	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	01 May 2022	0906_MW308_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	01 May 2022	0906_QC103_20220501	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	01 May 2022	0906_QC203_220501	889634	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW308	07 Nov 2022	0906_MW308_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	07 Nov 2022	0906_QC105_221107	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	07 Nov 2022	0906_QC205_221107	940477	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW308	16 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW308	17 Apr 2023	0906_MW308_230417	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	17 Apr 2023	0906_QC106_230417	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	17 Apr 2023	0906_QC206_230417	982807	NSW_0906_PFASOMP	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW308	14 Oct 2023	0906_MW308_231014	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	17 Apr 2024	0906_MW308_240417	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW308	06 Feb 2025	0906_MW308_240206	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW309	21 Apr 2021	0906_MW309_20210421	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.1	-	0.1

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

								Field						PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids									
								DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Turbidity	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
								mg/L	°C	mV	µS/cm	pH Units	NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL													0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
PFAS in Drinking Water (ADWG 2025)														1		0.03		0.008							0.2					
PFAS NEMP 2025 Freshwater 95%																		0.13							220					
PFAS NEMP 2025 Recreational water quality guideline																2		2							10					
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation	Investigation Area																									
MW310	16 Jan 2018	0906_MW310_D_180116	ES1802545	NSW_0906_PFAS	Upper Lachlan	Base Boundary		3.18	21.7	61.2	1,001	7.22	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	12 Apr 2018	0906_MW310_D_180412	EM1806331	NSW_0906_PFAS	Upper Lachlan	Base Boundary		3.89	29.5	39.7	8	6.87	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	31 Mar 2020	0906_MW310_20200331	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		2.06	20.2	59.3	1,717	6.68	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	30 Sep 2020	0906_MW310_20200930	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		1.93	16.5	131	894	7.25	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		1.58	11.5	-143.7	1,155	7.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	22 Apr 2021	0906_MW310_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	21 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		1.99	19	-107	963	7.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	22 Oct 2021	0906_MW310_20211022	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		2.37	17.9	13.2	4.71	6.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	02 May 2022	0906_MW310_20220502	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		2.37	17.9	13.2	4.71	6.75	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	08 Nov 2022	0906_MW310_221108	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		1.53	21.6	127.6	1,081	6.82	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary		2.07	18.5	118.2	1,225	6.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	13 Apr 2023	0906_MW310_230413	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	Base Boundary		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	16 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary		3.49	17.3	133.1	3,729	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	17 Oct 2023	0906_MW310_231017	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	Base Boundary		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	16 Apr 2024	0906_QC209_240419	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary		-	-	-	-	-	-	<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
MW310	19 Apr 2024	0906_MW310_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary		2.63	18.6	125.9	1,063	7.02	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	19 Apr 2024	0906_QC109_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	Base Boundary		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW310	07 Feb 2025	0906_MW310_250207	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	Base Boundary		2.13	24.7	99.7	1,264	6.98	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW311	15 Jan 2018	0906_MW311_I_180115	ES1802545	NSW_0906_PFAS	Cowra	Base Boundary		1.3	23.8	-145.1	2,276	7.08	-	<0.02	<0.02	0.03	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	15 Jan 2018	0906_QC101_180115	ES1802545	NSW_0906_PFAS	Cowra	Base Boundary		-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	15 Jan 2018	0906_QC201_180115	581313	NSW_0906_PFAS	Cowra	Base Boundary		-	-	-	-	-	-	<0.01	<0.01	0.04	<0.01	<0.01	-	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MW311	31 Mar 2020	0906_MW311_20200331	ES2011457	NSW_0906_PFASOMP	Cowra	Base Boundary		1.56	17.1	55.8	767	6.77	-	<0.02	<0.02	0.04	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	Base Boundary		2.37	17.9	13.2	4.71	6.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW311	08 Nov 2022	0906_MW311_221108	EM2222404	NSW_0906_PFASOMP	Cowra	Base Boundary		3.88	20.7	131.5	3,966	6.7	-	0.05	0.06	0.49	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Base Boundary		4.39	18.4	67.4	4,665	6.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW311	13 Apr 2023	0906_MW311_230413	EM2306945	NSW_0906_PFASOMP	Cowra	Base Boundary		-	-	-	-	-	-	0.04	0.06	0.43	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	16 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	Base Boundary		2.15	17.5	97.1	863	6.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW311	17 Oct 2023	0906_MW311_231017	EM2318641	NSW_0906_PFASOMP_23	Cowra	Base Boundary		-	-	-	-	-	-	0.03	0.05	0.48	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	16 Apr 2024	0906_QC208_240419	1090100_0906	NSW_0906_PFASOMP_24	Cowra	Base Boundary		-	-	-	-	-	-	0.04	0.05	0.45	<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
MW311	19 Apr 2024	0906_MW311_240419	EM2406727	NSW_0906_PFASOMP_24	Cowra	Base Boundary		3.01	18.6	252.9	3,913	6.67	-	0.05	0.04	0.42	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	19 Apr 2024	0906_QC108_240419	EM2406727	NSW_0906_PFASOMP_24	Cowra	Base Boundary		-	-	-	-	-	-	0.04	0.05	0.42	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW311	07 Feb 2025	0906_MW311_250207	ES2503757	NSW_0906_PFASOMP_24a	Cowra	Base Boundary		1.72	23.5	116.7	5,138	6.72	-	0.056	0.088	0.8	0.002	0.002	-	<0.002	<0.01	<0.002	0.022	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW312	15 Jan 2018	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	Gumly Gumly Wetland		1.4	21.4	-34.4	1,770	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	16 Jan 2018	0906_MW312_D_180115	ES1802566	NSW_0906_PFAS	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	13 Apr 2018	0906_MW312_D_180413	EM1806331	NSW_0906_PFAS	Upper Lachlan	Gumly Gumly Wetland		4.09	19.3	201.8	935	6.58	-	<0.02	<0.02	0.06	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	04 Jan 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		1.42	22.3	-66.8	664	10.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	01 Apr 2020	0906_MW312_200401	ES2011454	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	01 Oct 2020	0906_MW312_20201001	ES2034888	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		3.12	16.6	8	662	9.45	-	<0.02	<0.02	0.05	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	21 Oct 2021	0906_MW312_20211021	ES2139399	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		1.79	21.1	19.4	1,068	6.87	-	<0.02	<0.02	0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		0.85	16.8	40.5	0.88	6.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	03 May 2022	0906_MW312_20220503	EM2208339	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	08 Nov 2022	0906_MW312_221108	EM2222499	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		0.53	21.6	126.3	558	6.57	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	17 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	Gumly Gumly Wetland		0.55	18.9	123.1	920	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	17 Apr 2023	0906_MW312_230417	EM2306923	NSW_0906_PFASOMP	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	13 Oct 2023	0906_MW312_231013	EM2318618	NSW_0906_PFASOMP_23	Upper Lachlan	Gumly Gumly Wetland		0.64	18.2	65.3	860	6.68	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	19 Apr 2024	0906_MW312_240419	EM2406728	NSW_0906_PFASOMP_24	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
MW312	26 Feb 2025	0906_MW312_250226	ES2506593	NSW_0906_PFASOMP_24a	Upper Lachlan	Gumly Gumly Wetland		4.36	20.8	58.6	834	6.71	-	<0.002	<0.002	0.005	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW312	26 Feb 2025	0906_QC103_250226	ES2506593	NSW_0906_PFASOMP_24a	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.002	<0.002	0.005	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
MW312	26 Feb 2025	0906_QC203_250226	1196147	NSW_0906_PFASOMP_24a	Upper Lachlan	Gumly Gumly Wetland		-	-	-	-	-	-	<0.001	<0.001	0.004	<0.001	0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Statistics																															
Minimum Concentration								0	6.34	-523.5	0.001	0.73	16.9	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Maximum Concentration								26.8	40.8	1,123	5,138	11.92	16.9	0.34	0.324	2	0.08	1.36	<0.02	<0.02	<0.1	0.101	0.323	0.08	0.25	0.033	<0.02	<0.02	<0.02	<0.02	<0.05
Number of Env Standard Exceedances								0	0	0	0	0	0	0	0	144	0	153	0	0	0	0	0	0	1	0	0	0	0	0	0
Number of Env Standard Exceedances (Detects Only)								0	0	0	0	0	0	0	0	144	0	153	0	0	0	0	0	0	1	0	0	0	0	0	0
% of Detects								100	100	100	100	100	100	17	15	38	4	28	0	0	2	14	20	9	12	2	0	0	0	0	0
% of Non-Detects								0	0	0	0	0	0	83	85	62	96	72	100	100	98	86	80	91	88	98	100	100	100	100	100
% of Detects at or above Env Standards								0	0	0	0	0	0	0	0	24	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Env Standards or Non-Detect								100	100	100	100	100	100	100	100	76	100	74	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Number of Results								400	399	400	400	400	1	587	568	595	568	594	58	568	585	587	587	586	594	568	568	568	568	568	568

Environmental Standards
NHMRC, 25 June 2025, PFAS in Drinking Water (ADWG 2025)
HEPA, March 2025, PFAS NEMP 2025 Freshwater 95%
HEPA, March 2025, PFAS NEMP 2025 Recreational water quality guideline

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously used.

						PFAS - (n:2) Fluorotelomer Sulfonic Acids				PFAS - Perfluoroalkyl Sulfonamides							PFAS			
						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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.001	0.005	0.001	0.001	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.001	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)																				
PFAS NEMP 2025 Freshwater 95%																				
PFAS NEMP 2025 Recreational water quality guideline																	2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Formation															
MW310	16 Jan 2018	0906_MW310_D_180116	ES1802545	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	12 Apr 2018	0906_MW310_D_180412	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	31 Mar 2020	0906_MW310_20200331	ES2011457	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	30 Sep 2020	0906_MW310_20200930	ES2034862-AB	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	21 Apr 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	22 Apr 2021	0906_MW310_20210422	ES2116327	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	21 Oct 2021	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	22 Oct 2021	0906_MW310_20211022	ES2139228	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	02 May 2022	0906_MW310_20220502	EM2208338	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	08 Nov 2022	0906_MW310_221108	EM2222404	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	13 Apr 2023	0906_MW310_230413	EM2306945	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	16 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW310	17 Oct 2023	0906_MW310_231017	EM2318641	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	16 Apr 2024	0906_QC209_240419	1090100_0906	NSW_0906_PFASOMP_24	Upper Lachlan	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
MW310	19 Apr 2024	0906_MW310_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	19 Apr 2024	0906_QC109_240419	EM2406727	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW310	07 Feb 2025	0906_MW310_250207	ES2503757	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.055	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.055	<0.005	0.055
MW311	15 Jan 2018	0906_MW311_I_180115	ES1802545	NSW_0906_PFAS	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW311	15 Jan 2018	0906_QC101_180115	ES1802545	NSW_0906_PFAS	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW311	15 Jan 2018	0906_QC201_180115	581313	NSW_0906_PFAS	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.05	-	<0.1
MW311	31 Mar 2020	0906_MW311_20200331	ES2011457	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
MW311	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW311	08 Nov 2022	0906_MW311_221108	EM2222404	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.49	0.54	-	0.6
MW311	13 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW311	13 Apr 2023	0906_MW311_230413	EM2306945	NSW_0906_PFASOMP	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.43	0.47	-	0.53
MW311	16 Oct 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Cowra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW311	17 Oct 2023	0906_MW311_231017	EM2318641	NSW_0906_PFASOMP_23	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.48	0.51	-	0.56
MW311	16 Apr 2024	0906_QC208_240419	1090100_0906	NSW_0906_PFASOMP_24	Cowra	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.45	0.51	-	0.57
MW311	19 Apr 2024	0906_MW311_240419	EM2406727	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.42	0.47	-	0.51
MW311	19 Apr 2024	0906_QC108_240419	EM2406727	NSW_0906_PFASOMP_24	Cowra	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.42	0.46	-	0.51
MW311	07 Feb 2025	0906_MW311_250207	ES2503757	NSW_0906_PFASOMP_24a	Cowra	<0.005	0.027	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.802	0.91	<0.005	1.01
MW312	15 Jan 2018	Field Record Only	N/A	NSW_0906_PFAS	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	16 Jan 2018	0906_MW312_D_180115	ES1802566	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.1	-	0.1
MW312	13 Apr 2018	0906_MW312_D_180413	EM1806331	NSW_0906_PFAS	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08	-	0.08
MW312	04 Jan 2020	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	01 Apr 2020	0906_MW312_200401	ES2011454	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
MW312	01 Oct 2020	0906_MW312_20201001	ES2034888	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06	-	0.06
MW312	21 Oct 2021	0906_MW312_20211021	ES2139399	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
MW312	02 May 2022	Field Record Only	N/A	NSW_0906_PFASOMP	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	03 May 2022	0906_MW312_20220503	EM2208339	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW312	08 Nov 2022	0906_MW312_221108	EM2222499	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW312	17 Apr 2023	Field Record Only	N/A	NSW_0906_PFASOMP_23	Upper Lachlan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW312	17 Apr 2023	0906_MW312_230417	EM2306923	NSW_0906_PFASOMP	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW312	13 Oct 2023	0906_MW312_231013	EM2318618	NSW_0906_PFASOMP_23	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW312	19 Apr 2024	0906_MW312_240419	EM2406728	NSW_0906_PFASOMP_24	Upper Lachlan	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
MW312	26 Feb 2025	0906_MW312_250226	ES2506593	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.007	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.005	0.012	<0.005	0.012
MW312	26 Feb 2025	0906_QC103_250226	ES2506593	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.005	0.016	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.005	0.021	<0.005	0.021
MW312	26 Feb 2025	0906_QC203_250226	1196147	NSW_0906_PFASOMP_24a	Upper Lachlan	<0.001	0.009	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.014	-	0.014

Statistics

Minimum Concentration	<0.001	<0.005	<0.001	<0.001	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.001	<0.002	<0.005	<0.002
Maximum Concentration	<0.05	0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.15	3.36	4.25	<0.05	4.62
Number of Env Standard Exceedances	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Number of Env Standard Exceedances (Detects Only)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
% of Detects	0	4	0	0	0	0	0	0	0	0	0	39	40	0	39
% of Non-Detects	100	96	100	100	100	100	100	100	100	100	100	61	60	100	61
% of Detects at or above Env Standards	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Env Standards or Non-Detect	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Number of Results	585	593	585	585	568	568	568	568	568	568	568	592	585	81	567

Environmental Standards
NHMRC, 25 June 2025, PFAS in Drinking Water (ADWG 2025)
HEPA, March 2025, PFAS NEMP 2025 Freshwater 95%
HEPA, March 2025, PFAS NEMP 2025 Recreational water quality guideline

Note:
The LOR was reduced after the April 2024 sampling event, following NHMRC announcement of draft drinking water guideline values, that were lower than the LOR previously u

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						Field					PFAS Perfluoroalkyl Sulfonic Acids							PFAS Perfluoroalkyl Carboxylic Acids											PFAS (n:2) Fluorotelomer Sulfonic Acids					
						DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)	NMethyl perfluorooctane sulfonamide (MeFOSA)
						mg/L	°C	mV	µS/cm	pH Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL											0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005
PFAS in Drinking Water (ADWG 2025)											1		0.03		0.008							0.2												
PFAS NEMP 2025 Freshwater 95%															0.13							220												
PFAS NEMP 2025 Recreational water quality guideline													2		2							10												
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area																													
SW104	04 Dec 2017	0906_SW104_171204	ES1731266	NSW_0906_PFAS	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.07	<0.02	0.27	-	<0.02	<0.1	<0.02	0.03	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	16 Aug 2018	0906_SW104_180816	ES1824412	NSW_0906_PFAS	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.12	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	17 Oct 2018	0906_SW104_181017	ES1831100	NSW_0906_PFAS	Base Boundary	-	-	-	-	-	0.03	<0.02	0.29	<0.02	0.38	-	<0.02	<0.1	<0.02	0.03	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	05 Mar 2020	0906_SW104A_200305	ES2008016	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.23	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	05 Mar 2020	0906_SW104B_200305	ES2008016	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.21	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	25 Mar 2020	0906_SW104_20200325	ES2011457	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.09	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	02 Sep 2020	0906_SW104_200904	ES2031377	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.17	0.16	1.44	0.09	2.83	-	<0.02	<0.1	0.15	0.44	0.07	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
SW104	04 Sep 2020	0906_QC201_200904	742937	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.13	0.13	0.99	0.06	2.3	<0.01	<0.01	0.06	0.1	0.41	0.06	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW104	29 Sep 2020	0906_SW104_20200929	ES2034862AB	NSW_0906_PFASOMP	Base Boundary	7.8	16.4	160.7	354.4	8.36	0.21	0.23	1.81	0.12	2.8	-	<0.02	<0.1	0.17	0.59	0.08	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
SW104	21 Apr 2021	0906_QC102_20210421	ES2116327	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.03	0.02	0.2	<0.02	0.26	-	<0.02	<0.1	<0.02	0.05	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.05	<0.05	<0.05	<0.02	<0.05
SW104	21 Apr 2021	0906_QC202_20210421	792803	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.02	0.02	0.14	<0.01	0.27	<0.01	<0.01	<0.05	0.01	0.03	<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
SW104	21 Apr 2021	0906_SW104_20210421	ES2116327	NSW_0906_PFASOMP	Base Boundary	7.2	15.4	83.1	609.3	8.3	0.04	0.02	0.2	<0.02	0.28	-	<0.02	<0.1	<0.02	0.06	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05
SW104	20 Oct 2021	0906_QC105_20211020	ES2139231	NSW_0906_PFASOMP	Base Boundary	6.56	23.2	76.1	64	8.38	0.04	0.03	0.25	<0.02	0.4	-	<0.02	<0.1	<0.02	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	20 Oct 2021	0906_QC205_211020	837704	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.04	0.03	0.3	0.02	0.61	<0.01	<0.01	<0.05	0.02	0.07	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
SW104	21 Oct 2021	0906_SW104_20211020	ES2139228	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.05	0.04	0.22	<0.02	0.41	-	<0.02	<0.1	0.02	0.07	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Nov 2021	0906_SW104_211104	EM2122139	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.29	-	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Nov 2021	0906_SW104_211104	EM2122139	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.22	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	05 Nov 2021	0906_SW104_211105	EM2122139	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	0.02	0.27	<0.02	1.08	-	<0.02	<0.1	<0.02	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	12 Nov 2021	SW104 211112	EM2123445	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.05	<0.02	0.15	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.07	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.09	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.01	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	07 Jan 2022	0906_SW104_A_220107	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	0.03	0.26	0.02	1.08	-	<0.02	<0.1	0.03	0.09	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
SW104	07 Jan 2022	0906_SW104_B_220107	EM2200220	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	0.03	0.24	0.02	1.01	-	<0.02	<0.1	0.04	0.09	<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
SW104	28 Jan 2022	0906_QC101_220128	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.07	-	0.47	-	0.48	-	-	<0.1	0.03	0.11	<0.02	0.03	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	28 Jan 2022	0906_QC201_220128	863526	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.58	-	0.66	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	28 Jan 2022	0906_SW104_2202128	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.06	0.07	0.49	0.02	0.49	-	<0.02	<0.1	0.03	0.13	<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
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.15	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.15	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.12	<0.02	0.25	-	<0.02	<0.1	<0.02	0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	0.03	0.23	<0.02	0.53	-	<0.02	<0.1	<0.02	0.08	<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
SW104	24 Feb 2022	0906_QC101_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.02	-	0.12	-	0.14	-	-	<0.1	<0.02	0.04	<0.02	0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	24 Feb 2022	0906_QC201_220224	874294	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.03	-	<0.01	-	-	-	-	-	-	0.01	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.11	<0.02	0.12	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.02	<0.02	0.13	<0.02	0.14	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.1	<0.02	0.11	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.08	-	0.08	-	-	<0.1	<0.02	0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.06	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.1	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.14	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.12	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.07	<0.02	0.14	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.1	<0.02	0.13	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 Mar 2022	0906_QC101_220301	ES2207607	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.06	-	0.03	-	-	<0.1	<0.02	0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	01 Mar 2022	0906_QC201_220301	869264	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.08	-	0.05	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	01 Mar 2022	0906_SW104A_220228	ES2207607	NSW_0906_PFASMGMT	Base Boundary	6.3	23	40	649	7.84	0.03	0.02	0.22	<0.02	0.28	-	<0.02	<0.1	<0.02	0.05	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 Mar 2022	0906_SW104B_220228	ES2207607	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.02	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	07 Apr 2022	0906_QC102_220407	EM2206603	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	07 Apr 2022	0906_QC202_220407	881789	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.06	-	0.15	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	07 Apr 2022	0906_SW104_2204071150	EM2206603	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.07	<0.02	0.14	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	08 Apr 2022	0906_QC101_220408	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.03	-	0.09	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	08 Apr 2022	0906_SW104_220408	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	0.02	0.24	<0.02	0.3	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.02	<0.02	0.21	<0.02	0.29	-	<0.02	<0.1	<0.02	0.05	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.13	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.15	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	27 Apr 2022	0906_QC101_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.04	-	0.29	-	0.38	-	-	<0.1	<0.02	0.07	<0.02	0.02	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	27 Apr 2022	0906_QC201_220427	889312	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.34	-	0.43	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.04	0.04	0.43	0.02	0.7	-	<0.02	<0.1	<0.02	0.08	<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
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.04	0.04	0.29	<0.02	0.34	-	<0.02	<0.1	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.02	<0.02	0.22	<0.02	0.6	-	<0.02	<0.1	<0.02	0.04	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	28 Apr 2022	0906_SW104_220428	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	0.03	0.3	0.02	0.55	-	<0.02	<0.1	<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
SW104	28 Apr 2022	0906_SW104_220428	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.02	<0.02	0.18	<0.02	0.3	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 May 2022	0906_QC101_20220501	EM2208338	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.03	0.02	0.2	<0.02	0.58	-	<0.02	<0.1	<0.02	0.05	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 May 2022	0906_QC201_220501	889634	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.03	0.02	0.26	0.02	0.83	<0.01	<0.01	<0.05	0.03	0.07	<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
SW104	01 May 2022	0906_SW104_20220501	EM2208338	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.03	<0.02	0.19	<0.02	0.63	-	<0.02	<0.1	<0.02	0.05	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	12 May 2022	0906_QC101_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.04	-	0.1	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	12 May 2022	0906_QC201_220512	893019	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.04	-	0.09	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	0.03	0.22	<0.02	0.27	-	<0.02	<0.1	<0.02	0.05	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.04	-	0.09	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.06	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.05	-	0.12	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.02	-	0.08	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.05	-	0.16	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.09	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.1	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	13 May 2022	0906_SW104_220513	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.12	-	0.36	-	-	<0.1	<0.02	0.03	<0.02	0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	17 May 2022			NSW_0906_PFASOMP	Base Boundary	9.6	18.4	157.2	0.194	7.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW104	17 May 2022			NSW_0906_PFASOMP	Base Boundary	9.6	18.4	157.2	0.194	7.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.08	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	<0.02	0.15	<0.02	0.14	-	<0.02	<0.1	<0.02	0.05	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	27 May 2022	0906_SW104_270522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.12	<0.02	0.16	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	27 May 2022	0906_SW104_270522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.09	<0.02	0.14	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	17 Jul 2022	0906_QC201_220717	912183	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.02	-	0.08	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.05	0.02	0.18	<0.02	0.23	-	<0.02	<0.1	<0.02	0.05	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.02	<0.02	0.1	<0.02	0.19	-	<0.02	<0.1	<0.02	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	<0.02	0.14	<0.02	0.25	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.04	<0.02	0.11	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	31 Jul 2022	0906_SW104_220731	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.04	<0.02	0.13	<0.02	0.25	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 Aug 2022	0906_QC101_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.02	-	0.05	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	01 Aug 2022	0906_QC201_220801	913049	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.02	-	0.07	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	0.11	-	-	-	-
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.07	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05

						PFAS Perfluoroalkyl Sulfonamides					PFAS			
						NMethyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Nmethyl perfluorooctane sulfonamidoethanol (MeFOSE)	NEthyl perfluorooctane sulfonamide (EtFOSA)	NEthyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NEthyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)														
PFAS NEMP 2025 Freshwater 95%														
PFAS NEMP 2025 Recreational water quality guideline											2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area									
SW104	04 Dec 2017	0906_SW104_171204	ES1731266	NSW_0906_PFAS	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.34	0.39	-	0.39
SW104	16 Aug 2018	0906_SW104_180816	ES1824412	NSW_0906_PFAS	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	0.17	-	0.17
SW104	17 Oct 2018	0906_SW104_181017	ES1831100	NSW_0906_PFAS	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.67	0.75	-	0.75
SW104	05 Mar 2020	0906_SW104A_200305	ES2008016	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.29	0.31	-	0.31
SW104	05 Mar 2020	0906_SW104B_200305	ES2008016	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.27	0.27	-	0.27
SW104	25 Mar 2020	0906_SW104_20200325	ES2011457	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.15	-	0.15
SW104	02 Sep 2020	0906_SW104_200904	ES2031377	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	4.27	5.23	-	5.48
SW104	04 Sep 2020	0906_QC201_200904	742937	NSW_0906_PFASMGMT	Base Boundary	<0.05	<0.05	<0.05	<0.05	<0.05	3.29	4.15	-	4.4
SW104	29 Sep 2020	0906_SW104_20200929	ES2034862AB	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	4.61	5.83	-	6.18
SW104	21 Apr 2021	0906_QC102_20210421	ES2116327	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.46	0.61	-	0.63
SW104	21 Apr 2021	0906_QC202_20210421	792803	NSW_0906_PFASOMP	Base Boundary	<0.05	<0.05	<0.05	<0.05	<0.05	0.41	0.49	-	0.51
SW104	21 Apr 2021	0906_SW104_20210421	ES2116327	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.48	0.66	-	0.68
SW104	20 Oct 2021	0906_QC105_20211020	ES2139231	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.65	0.76	-	0.79
SW104	20 Oct 2021	0906_QC205_211020	837704	NSW_0906_PFASOMP	Base Boundary	<0.05	<0.05	<0.05	<0.05	<0.05	0.91	1.07	-	1.14
SW104	21 Oct 2021	0906_SW104_20211020	ES2139228	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.63	0.78	-	0.82
SW104	04 Nov 2021	0906_SW104_211104	EM2122139	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.37	0.41	-	0.41
SW104	04 Nov 2021	0906_SW104_211104	EM2122139	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.26	0.29	-	0.29
SW104	05 Nov 2021	0906_SW104_211105	EM2122139	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	1.35	1.46	-	1.48
SW104	12 Nov 2021	SW104 211112	EM2123445	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	0.2	-	0.2
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.1	-	0.1
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12	-	0.12
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08	-	0.08
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12	-	0.12
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
SW104	07 Jan 2022	0906_SW104_A_220107	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	1.34	1.54	-	1.59
SW104	07 Jan 2022	0906_SW104_B_220107	EM2200220	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	1.25	1.44	-	1.49
SW104	28 Jan 2022	0906_QC101_220128	EM2201724	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.95	1.19	-	-
SW104	28 Jan 2022	0906_QC201_220128	863526	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	1.24	-	-	-
SW104	28 Jan 2022	0906_SW104_2202128	EM2201724	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.98	1.23	-	1.32
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.21	-	0.21
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.21	-	0.21
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.37	0.4	-	0.4
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.76	0.9	-	0.93
SW104	24 Feb 2022	0906_QC101_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.26	0.33	-	-
SW104	24 Feb 2022	0906_QC201_220224	874294	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.03	-	-	-
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.23	0.25	-	0.25
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.27	0.34	-	0.34
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.24	-	0.24
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.16	0.18	-	-
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.09	0.09	-	0.09
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.16	-	0.16
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	0.2	-	0.2
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.18	0.2	-	0.2
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.21	-	0.21
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.23	0.26	-	0.26
SW104	01 Mar 2022	0906_QC101_220301	ES2207607	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.09	0.11	-	-
SW104	01 Mar 2022	0906_QC201_220301	869264	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.13	-	-	-
SW104	01 Mar 2022	0906_SW104A_220228	ES2207607	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.5	0.59	-	0.61
SW104	01 Mar 2022	0906_SW104B_220228	ES2207607	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.1	-	0.1
SW104	07 Apr 2022	0906_QC102_220407	EM2206603	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11	-	0.11
SW104	07 Apr 2022	0906_QC202_220407	881789	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.21	-	-	-
SW104	07 Apr 2022	0906_SW104_2204071150	EM2206603	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.21	-	0.21
SW104	08 Apr 2022	0906_QC101_220408	ES2214067	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.12	0.12	-	-
SW104	08 Apr 2022	0906_SW104_220408	ES2214067	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11	-	0.11
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.54	0.59	-	0.61
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.5	0.59	-	0.59
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.21	-	0.21
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.23	0.23	-	0.23
SW104	27 Apr 2022	0906_QC101_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.67	0.8	-	-
SW104	27 Apr 2022	0906_QC201_220427	889312	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.77	-	-	-
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	1.13	1.28	-	1.34
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.63	0.76	-	0.8
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.82	0.9	-	0.9
SW104	28 Apr 2022	0906_SW104_220428	EM2208480	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.85	1	-	1.05
SW104	28 Apr 2022	0906_SW104_220428	EM2208480	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.48	0.55	-	0.55
SW104	01 May 2022	0906_QC101_20220501	EM2208338	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.78	0.87	-	0.89
SW104	01 May 2022	0906_QC201_220501	889634	NSW_0906_PFASOMP	Base Boundary	<0.05	<0.05	<0.05	<0.05	<0.05	1.09	1.24	-	1.28
SW104	01 May 2022	0906_SW104_20220501	EM2208338	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.82	0.91	-	0.91
SW104	12 May 2022	0906_QC101_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.14	0.14	-	-
SW104	12 May 2022	0906_QC201_220512	893019	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.13	-	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.49	0.58	-	0.61
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.13	0.13	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08	-	0.08
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.17	0.17	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.1	0.1	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.21	0.21	-	-
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.1	-	0.1
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11	-	0.11
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12	-	0.12
SW104	13 May 2022	0906_SW104_220513	EM2210029	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.48	0.52	-	-
SW104	17 May 2022			NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	-	-	-	-
SW104	17 May 2022			NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	-	-	-	-
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12	-	0.12
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.19	-	0.19
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.29	0.37	-	0.37
SW104	27 May 2022	0906_SW104_270522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.28	0.31	-	0.31
SW104	27 May 2022	0906_SW104_270522	EM2210980	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.23	0.25	-	0.25
SW104	17 Jul 2022	0906_QC201_220717	912183	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.1	-	-	-
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.41	0.52	-	0.54
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.29	0.35	-	0.35
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.39	0.47	-	0.47
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.1	-	0.1
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.15	-	0.15
SW104	31 Jul 2022	0906_SW104_220731	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.38	0.47	-	0.47
SW104	01 Aug 2022	0906_QC101_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.07	0.07	-	-
SW104	01 Aug 2022	0906_QC201_220801	913049	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.09	-	-	-
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11	-	0.11
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.09	0.09	-	0.09
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07

						Field					PFAS Perfluoroalkyl Sulfonic Acids							PFAS Perfluoroalkyl Carboxylic Acids											PFAS (n:2) Fluorotelomer Sulfonic Acids					
						DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)	NMethyl perfluorooctane sulfonamide (MeFOSA)
						mg/L	°C	mV	µS/cm	pH Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL											0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005
PFAS in Drinking Water (ADWG 2025)											1		0.03		0.008							0.2												
PFAS NEMP 2025 Freshwater 95%															0.13							220												
PFAS NEMP 2025 Recreational water quality guideline													2		2							10												
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area																													
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.12	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.15	<0.02	0.26	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.12	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.08	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	0.11	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.24	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	<0.02	0.23	<0.02	0.57	-	<0.02	<0.1	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	05 Aug 2022	0906_QC101_220805	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	<0.02	-	0.02	-	0.06	-	-	<0.1	<0.02	<0.02	<0.02	<0.01	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SW104	05 Aug 2022	0906_QC201_220805	913049	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	-	-	0.01	-	0.07	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	<0.05	-	-	-	-
SW104	05 Nov 2022	0906_QC102_221105	EM2222404	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.2	0.18	1.44	0.09	3.19	-	<0.04	<0.2	0.1	0.35	0.04	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.05	0.05	<0.05	<0.05	<0.04	<0.09
SW104	05 Nov 2022	0906_QC202_221105	940477	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.17	0.18	1.6	0.12	3.1	<0.01	<0.01	0.1	0.13	0.41	0.06	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
SW104	05 Nov 2022	0906_SW104_221105	EM2222404	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.19	0.19	1.54	0.08	3.34	-	<0.04	<0.2	0.1	0.37	0.05	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.05	<0.05	<0.05	<0.05	<0.04	<0.09
SW104	09 Nov 2022			NSW_0906_PFASOMP	Base Boundary	5.41	16.8	88.3	738	7.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW104	15 Apr 2023			NSW_0906_PFASOMP_23	Base Boundary	5.07	20.6	106.7	642	8.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW104	15 Apr 2023	0906_QC102_230415	EM2306945	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.1	0.1	0.92	0.07	1.98	-	<0.02	<0.1	0.07	0.27	0.04	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
SW104	15 Apr 2023	0906_QC202_230415	982807	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.1	0.14	1.2	0.11	3	0.01	<0.01	0.07	0.08	0.35	0.05	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
SW104	15 Apr 2023	0906_SW104_230415	EM2306945	NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	0.1	0.1	0.91	0.06	2.03	-	<0.02	<0.1	0.07	0.28	0.04	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
SW104	14 Oct 2023	0906_SW104_231014	EM2318641	NSW_0906_PFASOMP_23	Base Boundary	6.3	15.6	122	613	7.62	0.04	0.04	0.37	0.02	0.3	-	<0.02	<0.1	<0.02	0.07	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	20 Apr 2024	0906_SW104_240420	EM2406727	NSW_0906_PFASOMP_24	Base Boundary	6.88	19.4	144.3	310.5	7.79	<0.02	<0.02	0.08	<0.02	0.11	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW104	27 Feb 2025	0906_SW104_250227	ES2506606	NSW_0906_PFASOMP_24a	Base Boundary	-	-	-	-	-	0.05	0.05	0.61	0.02	0.55	<0.02	<0.02	<0.1	<0.02	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	20 Jun 2017	0906_SW001_170620	ES1715334	NSW_0906_PFAS	Council Drain	-	-	-	-	-	<0.02	<0.02	0.11	<0.02	0.23	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	07 Jul 2017	0906_SW001_07072017	ES1716880	NSW_0906_PFAS	Council Drain	-	-	-	-	-	<0.02	<0.02	0.09	<0.02	0.27	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	13 Dec 2017	0906_SW206_171213	ES1732701	NSW_0906_PFAS	Council Drain	-	-	-	-	-	0.05	0.04	0.52	<0.02	0.57	-	<0.02	<0.1	0.03	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	24 Mar 2020			NSW_0906_PFASOMP	Council Drain	6.41	19.4	94.8	354.2	8.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW206	25 Mar 2020	0906_SW206_20200325	ES2011453	NSW_0906_PFASOMP	Council Drain	-	-	-	-	-	<0.02	<0.02	0.16	<0.02	0.38	-	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	01 Oct 2020	0906_SW206_20201001	ES2034866	NSW_0906_PFASOMP	Council Drain	6.74	14.6	112.1	252.3	7.62	0.07	0.08	0.66	0.04	1.21	-	<0.02	<0.1	0.08	0.21	0.03	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
SW206	20 Apr 2021	0906_SW206_20210420	ES2116333	NSW_0906_PFASOMP	Council Drain	5.39	17.3	72.7	788	8.38	0.03	<0.02	0.12	<0.02	0.13	-	<0.02	<0.1	<0.02	0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	21 Oct 2021	0906_SW206_20211021	ES2139237	NSW_0906_PFASOMP	Council Drain	6.17	16.1	38.5	441.6	8.44	<0.02	<0.02	0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	03 May 2022	0906_SW206_20220503	EM2208150	NSW_0906_PFASOMP	Council Drain	-	-	-	-	-	0.02	<0.02	0.08	<0.02	0.15	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	17 May 2022			NSW_0906_PFASOMP	Council Drain	7.51	14.3	163.4	0.201	7.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW206	17 May 2022			NSW_0906_PFASOMP	Council Drain	7.51	14.3	163.4	0.201	7.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW206	04 Nov 2022	0906_SW206_20221104	EM2222399	NSW_0906_PFASOMP	Council Drain	5.68	16.6	62.2	788	8.58	0.18	0.12	1.06	0.06	2.01	-	<0.02	<0.1	0.1	0.29	0.05	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
SW206	13 Apr 2023	0906_SW206_230413	EM2306921	NSW_0906_PFASOMP_23	Council Drain	-	-	-	-	-	0.06	0.05	0.46	0.02	1.05	-	<0.02	<0.1	0.03	0.11	<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
SW206	15 Apr 2023			NSW_0906_PFASOMP_23	Council Drain	5.86	18.2	69.8	124.4	8.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW206	15 Oct 2023			NSW_0906_PFASOMP_23	Council Drain	7.47	14.6	51.5	39.1	7.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW206	16 Oct 2023	0906_SW206_231016	EM2318614	NSW_0906_PFASOMP_23	Council Drain	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.1	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	17 Apr 2024	0906_SW206_240417	EM2406730	NSW_0906_PFASOMP_24	Council Drain	5.35	19.6	92	419.3	8.14	<0.02	<0.02	0.13	<0.02	0.19	-	<0.02	<0.1	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW206	27 Feb 2025	0906_SW206_250227	ES2506606	NSW_0906_PFASOMP_24a	Council Drain	6.17	23.9	44.9	304.8	7.76	0.01	0.009	0.095	0.005	0.125	-	<0.002	<0.01	<0.002	0.013	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
SW206	15 Sep 2025			NSW_0906_PFASOMP_24a	Council Drain	10.13	15.7	127.8	361.1	8.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW212	11 Dec 2017	0906_SW212_171211	ES1731989	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	18 Jun 2018	0906_SW212_180619	ES1818232	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	15 Aug 2019	0906_SW212_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	27 Mar 2020	0906_SW212_20200327	ES2011453	NSW_0906_PFASOMP	Murrumbidgee River	5.09	20.2	199.6	203.2	8.04	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	30 Sep 2020	0906_SW212_20200930	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	7.1	13.8	104.8	152.1	7.25	<0.02	<0.02	<0.02	<0.02	0.09	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	30 Sep 2020	0906_SW212_20200930 Du	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	19 Nov 2020	0906_QC101_201119	ES2041395	NSW_0906_PFASMGMT	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	19 Nov 2020	0906_QC201_201119	759380	NSW_0906_PFASMGMT	Murrumbidgee River	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW212	19 Nov 2020	0906_SW212_201119	ES2041395	NSW_0906_PFASMGMT	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	23 Apr 2021	0906_SW212_20210423	ES2116333	NSW_0906_PFASOMP	Murrumbidgee River	5.45	13.6	74.8	173.2	7.71	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	19 Oct 2021	0906_SW212_20211019	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	5.66	16	110	145.8	7.69	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	03 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	3.37	15.9	47.2	0.125	7.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW212	03 May 2022	0906_SW212_20220503	EM2208150	NSW_0906_PFASOMP	Murrumbidgee River	3.37	15.9	47.2	0.125	7.48	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	13 Apr 2023	0906_SW212_230413	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	15 Apr 2023			NSW_0906_PFASOMP_23	Murrumbidgee River	5.72	18	114.4	204.8	7.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW212	15 Oct 2023	0906_SW212_231015	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	7.98	15.6	86.7	90.5	7.98	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	20 Apr 2024	0906_SW212_240420	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	6.81	19.6	98.5	192.4	7.91	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW212	26 Feb 2025	0906_SW212_250226	ES2506594	NSW_0906_PFASOMP_24a	Murrumbidgee River	-	-	-	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
SW212	28 Feb 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	5.02	23.1	93.7	148	7.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW212	18 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	10.14	14.1	63.4	220.3	7.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW218	17 Jan 2018	0906_SW218_180117	ES1802545	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	24 Mar 2020			NSW_0906_PFASOMP	Forest Hill Drain	6.73	19.7	103.7	972	9.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW218	25 Mar 2020	0906_SW218_20200325	ES2011453	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	0.03	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	01 Oct 2020	0906_QC104_20201001	ES2034866	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	0.08	0.05	0.3	<0.02	0.06	-	<0.02	<0.1	0.05	0.13	0.03	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	01 Oct 2020	0906_SW218_20201001	ES2034866	NSW_0906_PFASOMP	Forest Hill Drain	7.75	15.6	55.1	513	8.22	0.07	0.04	0.29	<0.02	0.1	-	<0.02	<0.1	0.05	0.12	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
SW218	20 Apr 2021	0906_SW218_20210420	ES2116333	NSW_0906_PFASOMP	Forest Hill Drain	5.54	17.1	62	1,346	8.36	<0.02	<0.02	0.04	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	21 Oct 2021	0906_SW218_20211021	ES2139237	NSW_0906_PFASOMP	Forest Hill Drain	6.68	16.5	40.6	558	8.59	0.04	0.04	0.24	<0.02	0.27	-	<0.02	<0.1	<0.02	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	03 May 2022	0906_SW218_20220503	EM2208150	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	0.03	<0.02	0.12	<0.02	0.24	-	<0.02	<0.1	<0.02	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	7.88	12.5	162.5	0.209	8.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW218	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	7.88	12.5	162.5	0.209	8.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW218	04 Nov 2022	0906_SW218_20221104	EM2222399	NSW_0906_PFASOMP	Forest Hill Drain	0.09	16.9	168.8	53.9	7.72	0.04	0.04	0.34	<0.02	0.63	-	<0.02	<0.1	0.04	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
SW218	13 Apr 2023	0906_SW218_230413	EM2306921	NSW_0906_PFASOMP_23	Forest Hill Drain	-	-	-	-	-	<0.02	<0.02	0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	13 Apr 2023	0906_SW218_230413	EM2307789	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	<0.02	<0.02	0.03	<0.02	<0.02	-	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	15 Apr 2023			NSW_0906_PFASOMP_23	Forest Hill Drain	6.62	18.9	75.5	157	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW218	15 Oct 2023			NSW_0906_PFASOMP_23	Forest Hill Drain	7.43	14.6	70.3	28.4	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW218	16 Oct 2023	0906_SW218_231016	EM2318614	NSW_0906_PFASOMP_23	Forest Hill Drain	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	17 Apr 2024	0906_SW218_240417	EM2406730	NSW_0906_PFASOMP_24	Forest Hill Drain	6.15	19.3	89.1	466.7	8.37	<0.02	<0.02	0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	27 Feb 2025	0906_SW218_250227	ES2506606	NSW_0906_PFASOMP_24a	Forest Hill Drain	6.39	25.7	85.3	290	8.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW218	15 Sep 2025			NSW_0906_PFASOMP_24a	Forest Hill Drain	10.4	14	174.1	746	8.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW228	07 Dec 2017	0906_SW228_171207	ES1731266	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	0.21	0.19	1.43	0.1	2.9	-	<0.02	<0.1	0.14	0.51	0.06	0.17	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	0.06
SW228	12 Apr 2018	0906_SW228_180412	EM1806331	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	0.02	0.02	0.23	<0.02	0.3	-	<0.02	<0.1	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
SW228	07 Aug 2018	0906_SW228_A_180807	EM1812664	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	<0.02	0.02	0.47	0.02	0.49	-	<0.02	<0.1	<0.02	0.09	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
SW228	07 Aug 2018	0906_SW228_B_180807	EM1812664	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	<0.02	0.02	0.49	0.02	0.49	-	<0.02	<0.1	<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
SW228	04 Apr 2019	0906_QC101_190408	ES1911335	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	0.1	0.09	0.6	0.04	0.81	-	<0.02	<0.1	0.11	0.43	0.04	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
SW228	04 Apr 2019	0906_QC201_190408	650878	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	0.05	0.06	0.56	0.03	0.6	<0.01	<0.01	<0.05	0.07	0.24	0.02	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
SW228	04 Apr 2019	0906_SW228_190408	ES1911335	NSW_0906_PFAS	Forest Hill Drain	-	-	-	-	-	0.1	0.08	0.62	0.04	0.77	-	<0.02	<0.1	0.12	0.43	0.04	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
SW228	27 Mar 2020	0906_QC102_20200327	ES2011453	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	0.04	0.06	0.54	0.03	0.77	-	<0.02	<0.1	0.08	0.26	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
SW228	27 Mar 2020	0906_QC202_20200327	712445	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	0.04	0.05	0.41	0.02	0.63	<0.01	<0.01	<0.05	0.05	0.16	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW228	27 Mar 2020	0906_SW228_20200327	ES2011453	NSW_0906_PFASOMP	Forest Hill Drain	9.75	21.5	60.3	642	9.75	0.05	0.06	0.52	0.03	0.73	-	<0.02	<0.1	0.07	0.25	0.03	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
SW228	01 Oct 2020	0906_SW228_20201001	ES2034866	NSW_0906_PFASOMP	Forest Hill Drain	3.61	18.8	3.3	746	7.63	0.11	0.14	1.17	0.08	2.15	-	<0.02	<0.1	0.1	0.4	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
SW228	20 Apr 2021			NSW_0906_PFASOMP	Forest Hill Drain	11.19	19.9	11.5	650	9.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW228	27 Apr 2021	0906_SW228_20210427	ES2116333	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	0.19	0.1	1.09	0.06	1.1	-	<0.02	<0.1	0.1	0.48	0.04	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
SW228	21 Oct 2021	0906_SW228_20211021	ES2139237	NSW_0906_PFASOMP	Forest Hill Drain	3.97	20.3	59.3	836	8.14	0.1	0.09	0.72	0.06	1.41	-	<0.02	<0.1	0.09	0.32	0.03	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
SW228	03 May 2022	0906_SW228_20220503	EM2208150	NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	0.14	0.06	0.55	0.04	0.86	-	<0.02	<0.1	0.05	0.2	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
SW228	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	12.12	18	50.3	0.366	9.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW228	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	12.12	18	50.3	0.366	9.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW228	09 Nov 2022	0906_SW228_20221109	EM2222399	NSW_0906_PFASOMP	Forest Hill Drain	12.9	22.9	32.6	545	8.95	0.06	0.08	0.76	0.05	1.17	-	<0.02	<0.1	0.06	0.27	0.03	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
SW228	17 Apr 2023	0906_SW228_230417	EM2306921	NSW_0906_PFASOMP_23	Forest Hill Drain	10.44	19.4	15.2	525	10.48	0.12	0.06	0.52	0.04	1.08	-	<0.02	<0.1	0.04	0.2	<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
SW228	16 Oct 2023	0906_SW228_231016	EM2318614	NSW_0906_PFASOMP_23	Forest Hill Drain	0.97	16.8	2	578	7.5	0.04	0.04	0.54	0.04	1.03	-	<0.02	<0.1	0.04	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

						PFAS Perfluoroalkyl Sulfonamides					PFAS			
						NMethyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Nmethyl perfluorooctane sulfonamidoethanol (MeFOSE)	NEthyl perfluorooctane sulfonamide (EtFOSA)	NEthyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NEthyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)														
PFAS NEMP 2025 Freshwater 95%														
PFAS NEMP 2025 Recreational water quality guideline											2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area									
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.15	-	0.15
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.41	0.46	-	0.46
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11	-	0.11
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.15	-	0.15
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.1	0.1	-	0.1
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.14	0.14	-	0.14
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.32	0.35	-	0.35
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.8	0.89	-	0.89
SW104	05 Aug 2022	0906_QC101_220805	EM2215110	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.08	0.08	-	-
SW104	05 Aug 2022	0906_QC201_220805	913049	NSW_0906_PFASMGMT	Base Boundary	-	-	-	-	-	0.08	-	-	-
SW104	05 Nov 2022	0906_QC102_221105	EM2222404	NSW_0906_PFASOMP	Base Boundary	<0.04	<0.09	<0.09	<0.04	<0.09	4.63	5.47	-	5.74
SW104	05 Nov 2022	0906_QC202_221105	940477	NSW_0906_PFASOMP	Base Boundary	<0.05	<0.05	<0.05	<0.05	<0.05	4.7	5.62	-	5.98
SW104	05 Nov 2022	0906_SW104_221105	EM2222404	NSW_0906_PFASOMP	Base Boundary	<0.04	<0.09	<0.09	<0.04	<0.09	4.88	5.7	-	5.97
SW104	09 Nov 2022			NSW_0906_PFASOMP	Base Boundary	-	-	-	-	-	-	-	-	-
SW104	15 Apr 2023			NSW_0906_PFASOMP_23	Base Boundary	-	-	-	-	-	-	-	-	-
SW104	15 Apr 2023	0906_QC102_230415	EM2306945	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	2.9	3.44	-	3.61
SW104	15 Apr 2023	0906_QC202_230415	982807	NSW_0906_PFASOMP	Base Boundary	<0.05	<0.05	<0.05	<0.05	<0.05	4.2	4.94	-	5.23
SW104	15 Apr 2023	0906_SW104_230415	EM2306945	NSW_0906_PFASOMP	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	2.94	3.49	-	3.65
SW104	14 Oct 2023	0906_SW104_231014	EM2318641	NSW_0906_PFASOMP_23	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.67	0.78	-	0.84
SW104	20 Apr 2024	0906_SW104_240420	EM2406727	NSW_0906_PFASOMP_24	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	0.19	0.19	-	0.19
SW104	27 Feb 2025	0906_SW104_250227	ES2506606	NSW_0906_PFASOMP_24a	Base Boundary	<0.02	<0.05	<0.05	<0.02	<0.05	1.16	1.32	<0.05	1.39
SW206	20 Jun 2017	0906_SW001_170620	ES1715334	NSW_0906_PFAS	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.34	0.36	-	0.36
SW206	07 Jul 2017	0906_SW001_07072017	ES1716880	NSW_0906_PFAS	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.36	0.37	-	0.37
SW206	13 Dec 2017	0906_SW206_171213	ES1732701	NSW_0906_PFAS	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.09	1.28	-	1.32
SW206	24 Mar 2020			NSW_0906_PFASOMP	Council Drain	-	-	-	-	-	-	-	-	-
SW206	25 Mar 2020	0906_SW206_20200325	ES2011453	NSW_0906_PFASOMP	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.54	0.59	-	0.59
SW206	01 Oct 2020	0906_SW206_20201001	ES2034866	NSW_0906_PFASOMP	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.87	2.32	-	2.44
SW206	20 Apr 2021	0906_SW206_20210420	ES2116333	NSW_0906_PFASOMP	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.25	0.31	-	0.31
SW206	21 Oct 2021	0906_SW206_20211021	ES2139237	NSW_0906_PFASOMP	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
SW206	03 May 2022	0906_SW206_20220503	EM2208150	NSW_0906_PFASOMP	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.23	0.25	-	0.25
SW206	17 May 2022			NSW_0906_PFASOMP	Council Drain	-	-	-	-	-	-	-	-	-
SW206	17 May 2022			NSW_0906_PFASOMP	Council Drain	-	-	-	-	-	-	-	-	-
SW206	04 Nov 2022	0906_SW206_20221104	EM2222399	NSW_0906_PFASOMP	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	3.07	3.78	-	3.96
SW206	13 Apr 2023	0906_SW206_230413	EM2306921	NSW_0906_PFASOMP_23	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.51	1.74	-	1.81
SW206	15 Apr 2023			NSW_0906_PFASOMP_23	Council Drain	-	-	-	-	-	-	-	-	-
SW206	15 Oct 2023			NSW_0906_PFASOMP_23	Council Drain	-	-	-	-	-	-	-	-	-
SW206	16 Oct 2023	0906_SW206_231016	EM2318614	NSW_0906_PFASOMP_23	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.16	0.16	-	0.16
SW206	17 Apr 2024	0906_SW206_240417	EM2406730	NSW_0906_PFASOMP_24	Council Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.32	0.35	-	0.35
SW206	27 Feb 2025	0906_SW206_250227	ES2506606	NSW_0906_PFASOMP_24a	Council Drain	<0.002	<0.005	<0.005	<0.002	<0.005	0.22	0.246	<0.005	0.26
SW206	15 Sep 2025			NSW_0906_PFASOMP_24a	Council Drain	-	-	-	-	-	-	-	-	-
SW212	11 Dec 2017	0906_SW212_171211	ES1731989	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	18 Jun 2018	0906_SW212_180619	ES1818232	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	15 Aug 2019	0906_SW212_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	27 Mar 2020	0906_SW212_20200327	ES2011453	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	30 Sep 2020	0906_SW212_20200930	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	0.09	0.09	-	0.09
SW212	30 Sep 2020	0906_SW212_20200930 D	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	19 Nov 2020	0906_QC101_201119	ES2041395	NSW_0906_PFASMGMT	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	19 Nov 2020	0906_QC201_201119	759380	NSW_0906_PFASMGMT	Murrumbidgee River	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW212	19 Nov 2020	0906_SW212_201119	ES2041395	NSW_0906_PFASMGMT	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.02	-	0.02
SW212	23 Apr 2021	0906_SW212_20210423	ES2116333	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	19 Oct 2021	0906_SW212_20211019	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	03 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW212	03 May 2022	0906_SW212_20220503	EM2208150	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	13 Apr 2023	0906_SW212_230413	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	15 Apr 2023			NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW212	15 Oct 2023	0906_SW212_231015	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	20 Apr 2024	0906_SW212_240420	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW212	26 Feb 2025	0906_SW212_250226	ES2506594	NSW_0906_PFASOMP_24a	Murrumbidgee River	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW212	28 Feb 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW212	18 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW218	17 Jan 2018	0906_SW218_180117	ES1802545	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW218	24 Mar 2020			NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW218	25 Mar 2020	0906_SW218_20200325	ES2011453	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
SW218	01 Oct 2020	0906_QC104_20201001	ES2034866	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.36	0.66	-	0.71
SW218	01 Oct 2020	0906_SW218_20201001	ES2034866	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.39	0.68	-	0.72
SW218	20 Apr 2021	0906_SW218_20210420	ES2116333	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
SW218	21 Oct 2021	0906_SW218_20211021	ES2139237	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.51	0.62	-	0.66
SW218	03 May 2022	0906_SW218_20220503	EM2208150	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.36	0.43	-	0.43
SW218	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW218	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW218	04 Nov 2022	0906_SW218_20221104	EM2222399	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.97	1.21	-	1.25
SW218	13 Apr 2023	0906_SW218_230413	EM2306921	NSW_0906_PFASOMP_23	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW218	13 Apr 2023	0906_SW218_230413	EM2307789	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03	-	0.03
SW218	15 Apr 2023			NSW_0906_PFASOMP_23	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW218	15 Oct 2023			NSW_0906_PFASOMP_23	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW218	16 Oct 2023	0906_SW218_231016	EM2318614	NSW_0906_PFASOMP_23	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW218	17 Apr 2024	0906_SW218_240417	EM2406730	NSW_0906_PFASOMP_24	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
SW218	27 Feb 2025	0906_SW218_250227	ES2506606	NSW_0906_PFASOMP_24a	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW218	15 Sep 2025			NSW_0906_PFASOMP_24a	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW228	07 Dec 2017	0906_SW228_171207	ES1731266	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	4.33	5.42	-	5.77
SW228	12 Apr 2018	0906_SW228_180412	EM1806331	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.53	0.71	-	0.73
SW228	07 Aug 2018	0906_SW228_A_180807	EM1812664	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.96	1.1	-	1.14
SW228	07 Aug 2018	0906_SW228_B_180807	EM1812664	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.98	1.13	-	1.17
SW228	04 Apr 2019	0906_QC101_190408	ES1911335	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.41	2.15	-	2.28
SW228	04 Apr 2019	0906_QC201_190408	650878	NSW_0906_PFAS	Forest Hill Drain	<0.05	<0.05	<0.05	<0.05	<0.05	1.16	1.59	-	1.7
SW228	04 Apr 2019	0906_SW228_190408	ES1911335	NSW_0906_PFAS	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.39	2.19	-	2.31
SW228	27 Mar 2020	0906_QC102_20200327	ES2011453	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.31	1.76	-	1.85
SW228	27 Mar 2020	0906_QC202_20200327	712445	NSW_0906_PFASOMP	Forest Hill Drain	<0.05	<0.05	<0.05	<0.05	<0.05	1.04	1.34	-	1.43
SW228	27 Mar 2020	0906_SW228_20200327	ES2011453	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.25	1.7	-	1.79
SW228	01 Oct 2020	0906_SW228_20201001	ES2034866	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	3.32	4.06	-	4.28
SW228	20 Apr 2021			NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW228	27 Apr 2021	0906_SW228_20210427	ES2116333	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	2.19	3.06	-	3.22
SW228	21 Oct 2021	0906_SW228_20211021	ES2139237	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	2.13	2.73	-	2.88
SW228	03 May 2022	0906_SW228_20220503	EM2208150	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.41	1.86	-	1.96
SW228	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW228	17 May 2022			NSW_0906_PFASOMP	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW228	09 Nov 2022	0906_SW228_20221109	EM2222399	NSW_0906_PFASOMP	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.93	2.41	-	2.54
SW228	17 Apr 2023	0906_SW228_230417	EM2306921	NSW_0906_PFASOMP_23	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.6	2	-	2.1
SW228	16 Oct 2023	0906_SW228_231016	EM2318614	NSW_0906_PFASOMP_23	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	1.57	1.87	-	1.95

						Field					PFAS Perfluoroalkyl Sulfonic Acids							PFAS Perfluoroalkyl Carboxylic Acids											PFAS (n:2) Fluorotelomer Sulfonic Acids					
						DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)	NMethyl perfluorooctane sulfonamide (MeFOSA)
						mg/L	°C	mV	µS/cm	pH Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL											0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005
PFAS in Drinking Water (ADWG 2025)											1		0.03		0.008							0.2												
PFAS NEMP 2025 Freshwater 95%															0.13							220												
PFAS NEMP 2025 Recreational water quality guideline													2		2							10												
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area																													
SW228	18 Apr 2024			NSW_0906_PFASOMP_24	Forest Hill Drain	7.44	18.8	30.6	485.3	9.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW228	19 Apr 2024	0906_SW228_240419	EM2406730	NSW_0906_PFASOMP_24	Forest Hill Drain	-	-	-	-	-	0.04	0.03	0.3	0.02	0.68	-	<0.02	<0.1	0.02	0.11	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW228	26 Feb 2025	0906_SW228_250226	ES2506594	NSW_0906_PFASOMP_24a	Forest Hill Drain	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW228	18 Sep 2025			NSW_0906_PFASOMP_24a	Forest Hill Drain	8.18	14.1	72.6	6.52	7.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW234	11 Dec 2017	0906_SW234_171211	ES1731989	NSW_0906_PFAS	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	0.08	<0.02	0.22	-	<0.02	<0.1	0.04	0.04	<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
SW234	18 Jun 2018	0906_SW234_180618	ES1818232	NSW_0906_PFAS	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05
SW234	27 Mar 2020	0906_SW234_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	5.18	23.2	91.8	6.4	7.45	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	0.03	0.04	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.16	<0.05	<0.05	<0.02	<0.05
SW234	29 Sep 2020	0906_SW234_20200929	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	5.05	17.6	86.9	506	7.51	<0.02	<0.02	0.11	<0.02	0.28	-	<0.02	<0.1	0.02	0.06	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.11	<0.05	<0.05	<0.02	<0.05
SW234	20 Apr 2021	0906_SW234_20210420	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	5.34	16.9	129.5	743	7.47	<0.02	<0.02	<0.02	<0.02	0.02	-	<0.02	<0.1	0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.34	<0.05	<0.05	<0.02	<0.05
SW234	19 Oct 2021	0906_SW234_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	5.16	22.9	133.5	633	7.72	<0.02	<0.02	<0.01	<0.02	0.04	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	02 May 2022	0906_QC107_20220502	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.23	<0.05	<0.05	<0.02	<0.05
SW234	02 May 2022	0906_SW234_20220502	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.22	<0.05	<0.05	<0.02	<0.05
SW234	03 May 2022	0906_QC207_220502	889634	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.28	<0.01	<0.01	<0.05	<0.05
SW234	17 May 2022			NSW_0906_PFASOMP	Marshalls Creek	4.2	18.5	173.3	0.477	7.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW234	17 May 2022			NSW_0906_PFASOMP	Marshalls Creek	4.2	18.5	173.3	0.477	7.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW234	08 Nov 2022	0906_SW234_20221108	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	09 Nov 2022			NSW_0906_PFASOMP	Marshalls Creek	4.06	23.1	145.6	161.3	7.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW234	13 Apr 2023	0906_SW234_ 230413	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	3.9	17.9	76.8	275.1	7.71	0.02	<0.02	0.06	<0.02	0.16	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	13 Apr 2023	0906_SW234_230413	EM2307789	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	0.06	<0.02	0.15	-	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	15 Oct 2023	0906_SW234_231015	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	6.32	19	48	536	8.09	<0.02	<0.02	<0.01	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	18 Apr 2024	0906_SW234_240418	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	4.73	18.1	105.6	620	7.04	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	04 Feb 2025	0906_SW234_250204	ES2503757	NSW_0906_PFASOMP_24a	Marshalls Creek	4.93	29.3	54.4	667	7.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW234	17 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	6.43	14.9	185.5	599	7.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW236	15 Dec 2017	0906_SW236_171215	ES1732819	NSW_0906_PFAS	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	02 Oct 2020	0906_SW236_20201002	ES2034866	NSW_0906_PFASOMP	Kyeamba Creek	44.2	11.5	57.1	307	8.11	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	20 Apr 2021			NSW_0906_PFASOMP	Kyeamba Creek	7.52	12.8	96.6	1061	8.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW236	22 Apr 2021	0906_SW236_20210422	ES2116333	NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	22 Oct 2021	0906_SW236_20211022	ES2139237	NSW_0906_PFASOMP	Kyeamba Creek	4.67	16.4	108.5	560	7.74	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	03 May 2022	0906_SW236_20220503	EM2208150	NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	8.82	17	102.7	0.238	7.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW236	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	8.82	17	102.7	0.238	7.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW236	04 Nov 2022	0906_SW236_20221104	EM2222399	NSW_0906_PFASOMP	Kyeamba Creek	5.54	15.3	112.2	194.6	7.02	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	14 Apr 2023	0906_SW236_230414	EM2306921	NSW_0906_PFASOMP_23	Kyeamba Creek	5.5	16.4	150.6	783	7.46	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	14 Oct 2023	0906_QC103_231014	EM2318614	NSW_0906_PFASOMP_23	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	14 Oct 2023	0906_QC203_231014	1036481	NSW_0906_PFASOMP_23	Kyeamba Creek	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW236	14 Oct 2023	0906_SW236_231014	EM2318614	NSW_0906_PFASOMP_23	Kyeamba Creek	7.84	18.5	63.4	1167	7.71	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	18 Apr 2024	0906_SW236_240418	EM2406730	NSW_0906_PFASOMP_24	Kyeamba Creek	7.1	19.9	71.5	1100	8.1	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	26 Feb 2025	0906_QC101_250226	ES2506606	NSW_0906_PFASOMP_24a	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	26 Feb 2025	0906_QC201_250226	1196147	NSW_0906_PFASOMP_24a	Kyeamba Creek	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW236	26 Feb 2025	0906_SW236_250226	ES2506606	NSW_0906_PFASOMP_24a	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW236	16 Sep 2025			NSW_0906_PFASOMP_24a	Kyeamba Creek	5.76	13.2	179.2	534	6.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW240	20 Dec 2017	0906_QC101_171220	ES1732819	NSW_0906_PFAS	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	20 Dec 2017	0906_QC201_171220	580967	NSW_0906_PFAS	Kyeamba Creek	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW240	20 Dec 2017	0906_QC201_171220	ES1732819	NSW_0906_PFAS	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	20 Dec 2017	0906_SW240_171220	ES1732819	NSW_0906_PFAS	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	02 Oct 2020	0906_SW240_20201002	ES2034866	NSW_0906_PFASOMP	Kyeamba Creek	30.7	10.2	54.7	131.7	7.66	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	20 Apr 2021			NSW_0906_PFASOMP	Kyeamba Creek	3.5	11.8	129.3	1183	7.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW240	22 Apr 2021	0906_SW240_20210422	ES2116333	NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	22 Oct 2021	0906_SW240_20211022	ES2139237	NSW_0906_PFASOMP	Kyeamba Creek	2.24	14.7	118.6	231.3	7.13	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	03 May 2022	0906_SW240_20220503	EM2208150	NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	5.23	14.1	31.7	0.191	7.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW240	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	5.23	14.1	31.7	0.191	7.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW240	04 Nov 2022	0906_SW240_20221104	EM2222399	NSW_0906_PFASOMP	Kyeamba Creek	2.77	18.7	33.3	169.2	6.65	<0.02	<0.02	<0.01	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	14 Apr 2023	0906_SW240_230414	EM2306921	NSW_0906_PFASOMP_23	Kyeamba Creek	3.73	18.6	129.8	254.6	7.24	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	14 Oct 2023	0906_SW240_231014	EM2318614	NSW_0906_PFASOMP_23	Kyeamba Creek	6.86	16.2	105.5	938	7.48	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	18 Apr 2024	0906_SW240_240418	EM2406730	NSW_0906_PFASOMP_24	Kyeamba Creek	10.71	19.5	82.6	1308	8.3	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	26 Feb 2025	0906_SW240_250226	ES2506606	NSW_0906_PFASOMP_24a	Kyeamba Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW240	16 Sep 2025			NSW_0906_PFASOMP_24a	Kyeamba Creek	5.48	13.1	164.9	360	6.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW261	16 Jan 2018	0906_SW261_180116	ES1802545	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	03 Apr 2018	0906_SW261_180403	ES1810698	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	18 Jun 2018	0906_SW261_180618	ES1818232	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	15 Aug 2019	0906_SW261_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	27 Mar 2020	0906_SW261_20200327	ES2011453	NSW_0906_PFASOMP	Murrumbidgee River	6.58	22.2	98.4	126.2	7.94	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	28 Sep 2020	0906_SW261_20200928	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	9.2	12.3	134.7	0.092	7.65	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	20 Apr 2021	0906_SW261_20210420	ES2116333	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	21 Apr 2021			NSW_0906_PFASOMP	Murrumbidgee River	6.38	14.3	149.6	185.5	7.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW261	19 Oct 2021	0906_QC103_20211019	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	19 Oct 2021	0906_QC203_20211019	842903	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW261	19 Oct 2021	0906_SW261_20211019	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	5.64	15.5	79.5	176.8	7.52	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	28 Apr 2022	0906_SW261_20220428	EM2208150	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	17 Apr 2023	0906_QC105_230417	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	17 Apr 2023	0906_QC205_230417	982766	NSW_0906_PFASOMP_23	Murrumbidgee River	7.08	14.5	39.3	188.3	7.73	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW261	17 Apr 2023	0906_SW261_230417	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	15 Oct 2023	0906_SW261_231015	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	7.48	15.7	60.8	91.7	8.01	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	16 Apr 2024	0906_QC103_240416	EM2406727	NSW_0906_PFASOMP_24	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	16 Apr 2024	0906_QC203_240416	1090100_0906	NSW_0906_PFASOMP_24	Murrumbidgee River	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW261	16 Apr 2024	0906_SW261_240416	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	6.27	19.4	94.1	156.7	7.73	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW261	27 Feb 2025	0906_SW261_250227	ES2506606	NSW_0906_PFASOMP_24a	Murrumbidgee River	6.6	24.6	103.4	152.6	7.65	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
SW261	18 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	9.98	13.8	92.1	226.3	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW262	16 Jan 2018	0906_SW262_180116	ES1802545	NSW_0906_PFAS	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	18 Jun 2018	0906_SW262_180618	ES1818232	NSW_0906_PFAS	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05
SW262	27 Mar 2020	0906_SW262_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	5.99	22.7	88.5	184.6	8.13	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	28 Sep 2020	0906_SW262_20200928	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	7.01	14.1	14.1	0.237	7.56	<0.02	<0.02	<0.02	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	20 Apr 2021	0906_SW262_20210420	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	22 Apr 2021			NSW_0906_PFASOMP	Marshalls Creek	7.75	14.4	172.5	258.6	7.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW262	19 Oct 2021	0906_SW262_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	5.93	18.4	104.7	250.1	7.63	<0.02	<0.02	<0.01	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	28 Apr 2022	0906_SW262_20220428	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	30 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	5.35	17.6	34.8	0.217	7.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW262	30 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	5.35	17.6	34.8	0.217	7.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW262	08 Nov 2022	0906_SW262_20221108	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	09 Nov 2022			NSW_0906_PFASOMP	Marshalls Creek	4.93	17	139.4	123.9	7.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW262	17 Apr 2023	0906_SW262_230417	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	6.68	14.9	53	110	7.64	<0.02	<0.02	0.02	<0.02	0.05	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	17 Apr 2023	0906_SW262_230417	EM2307789	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.04	-	<0.02	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	15 Oct 2023	0906_SW262_231015	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	5.38	19.7	72.4	301.6	8.02	<0.02	<0.02	<0.01	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	16 Apr 2024	0906_SW262_240416	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	7.22	18.4	101.2	279.4	7.58	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW262	06 Feb 2025	0906_SW262_250206	ES2503757	NSW_0906_PFASOMP_24a	Marshalls Creek	4.62	25.3	64.5	126.5	6.92	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
SW262	18 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	9.6	14.3	90.5	569	7.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW286	08 Apr 2018	0906_SW286_180408	ES1810698	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	15 Aug 2019	0906_SW286_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	27 Mar 2020	0906_SW286_20200327	ES2011453	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05

						PFAS Perfluoroalkyl Sulfonamides					PFAS			
						NMethyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Nmethyl perfluorooctane sulfonamidoethanol (MeFOSE)	NEthyl perfluorooctane sulfonamide (EtFOSA)	NEthyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NEthyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)														
PFAS NEMP 2025 Freshwater 95%														
PFAS NEMP 2025 Recreational water quality guideline											2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area									
SW228	18 Apr 2024			NSW_0906_PFASOMP_24	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW228	19 Apr 2024	0906_SW228_240419	EM2406730	NSW_0906_PFASOMP_24	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	0.98	1.17	-	1.22
SW228	26 Feb 2025	0906_SW228_250226	ES2506594	NSW_0906_PFASOMP_24a	Forest Hill Drain	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW228	18 Sep 2025			NSW_0906_PFASOMP_24a	Forest Hill Drain	-	-	-	-	-	-	-	-	-
SW234	11 Dec 2017	0906_SW234_171211	ES1731989	NSW_0906_PFAS	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.3	0.41	-	0.41
SW234	18 Jun 2018	0906_SW234_180618	ES1818232	NSW_0906_PFAS	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.08	-	0.08
SW234	27 Mar 2020	0906_SW234_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.25	-	0.25
SW234	29 Sep 2020	0906_SW234_20200929	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.39	0.6	-	0.6
SW234	20 Apr 2021	0906_SW234_20210420	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.42	-	0.42
SW234	19 Oct 2021	0906_SW234_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
SW234	02 May 2022	0906_QC107_20220502	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.25	-	0.25
SW234	02 May 2022	0906_SW234_20220502	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.22	-	0.22
SW234	03 May 2022	0906_QC207_220502	889634	NSW_0906_PFASOMP	Marshalls Creek	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	0.34	-	0.34
SW234	17 May 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW234	17 May 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW234	08 Nov 2022	0906_SW234_20221108	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW234	09 Nov 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW234	13 Apr 2023	0906_SW234_230413	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.22	0.24	-	0.24
SW234	13 Apr 2023	0906_SW234_230413	EM2307789	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.21	0.21	-	0.21
SW234	15 Oct 2023	0906_SW234_231015	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW234	18 Apr 2024	0906_SW234_240418	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW234	04 Feb 2025	0906_SW234_250204	ES2503757	NSW_0906_PFASOMP_24a	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW234	17 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW236	15 Dec 2017	0906_SW236_171215	ES1732819	NSW_0906_PFAS	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	02 Oct 2020	0906_SW236_20201002	ES2034866	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	20 Apr 2021			NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW236	22 Apr 2021	0906_SW236_20210422	ES2116333	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	22 Oct 2021	0906_SW236_20211022	ES2139237	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	03 May 2022	0906_SW236_20220503	EM2208150	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW236	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW236	04 Nov 2022	0906_SW236_20221104	EM2222399	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	14 Apr 2023	0906_SW236_230414	EM2306921	NSW_0906_PFASOMP_23	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	14 Oct 2023	0906_QC103_231014	EM2318614	NSW_0906_PFASOMP_23	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	14 Oct 2023	0906_QC203_231014	1036481	NSW_0906_PFASOMP_23	Kyeamba Creek	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW236	14 Oct 2023	0906_SW236_231014	EM2318614	NSW_0906_PFASOMP_23	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	18 Apr 2024	0906_SW236_240418	EM2406730	NSW_0906_PFASOMP_24	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW236	26 Feb 2025	0906_QC101_250226	ES2506606	NSW_0906_PFASOMP_24a	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW236	26 Feb 2025	0906_QC201_250226	1196147	NSW_0906_PFASOMP_24a	Kyeamba Creek	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW236	26 Feb 2025	0906_SW236_250226	ES2506606	NSW_0906_PFASOMP_24a	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW236	16 Sep 2025			NSW_0906_PFASOMP_24a	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW240	20 Dec 2017	0906_QC101_171220	ES1732819	NSW_0906_PFAS	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	20 Dec 2017	0906_QC201_171220	580967	NSW_0906_PFAS	Kyeamba Creek	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW240	20 Dec 2017	0906_QC201_171220	ES1732819	NSW_0906_PFAS	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	20 Dec 2017	0906_SW240_171220	ES1732819	NSW_0906_PFAS	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	02 Oct 2020	0906_SW240_20201002	ES2034866	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	20 Apr 2021			NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW240	22 Apr 2021	0906_SW240_20210422	ES2116333	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	22 Oct 2021	0906_SW240_20211022	ES2139237	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	03 May 2022	0906_SW240_20220503	EM2208150	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW240	17 May 2022			NSW_0906_PFASOMP	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW240	04 Nov 2022	0906_SW240_20221104	EM2222399	NSW_0906_PFASOMP	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
SW240	14 Apr 2023	0906_SW240_230414	EM2306921	NSW_0906_PFASOMP_23	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	14 Oct 2023	0906_SW240_231014	EM2318614	NSW_0906_PFASOMP_23	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	18 Apr 2024	0906_SW240_240418	EM2406730	NSW_0906_PFASOMP_24	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW240	26 Feb 2025	0906_SW240_250226	ES2506606	NSW_0906_PFASOMP_24a	Kyeamba Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW240	16 Sep 2025			NSW_0906_PFASOMP_24a	Kyeamba Creek	-	-	-	-	-	-	-	-	-
SW261	16 Jan 2018	0906_SW261_180116	ES1802545	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	03 Apr 2018	0906_SW261_180403	ES1810698	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	18 Jun 2018	0906_SW261_180618	ES1818232	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	15 Aug 2019	0906_SW261_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	27 Mar 2020	0906_SW261_20200327	ES2011453	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	28 Sep 2020	0906_SW261_20200928	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	20 Apr 2021	0906_SW261_20210420	ES2116333	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	21 Apr 2021			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW261	19 Oct 2021	0906_QC103_20211019	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	19 Oct 2021	0906_QC203_20211019	842903	NSW_0906_PFASOMP	Murrumbidgee River	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW261	19 Oct 2021	0906_SW261_20211019	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	28 Apr 2022	0906_SW261_20220428	EM2208150	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	17 Apr 2023	0906_QC105_230417	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	17 Apr 2023	0906_QC205_230417	982766	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW261	17 Apr 2023	0906_SW261_230417	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	15 Oct 2023	0906_SW261_231015	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	16 Apr 2024	0906_QC103_240416	EM2406727	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	16 Apr 2024	0906_QC203_240416	1090100_0906	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW261	16 Apr 2024	0906_SW261_240416	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW261	27 Feb 2025	0906_SW261_250227	ES2506606	NSW_0906_PFASOMP_24a	Murrumbidgee River	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW261	18 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW262	16 Jan 2018	0906_SW262_180116	ES1802545	NSW_0906_PFAS	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW262	18 Jun 2018	0906_SW262_180618	ES1818232	NSW_0906_PFAS	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.08	-	0.08
SW262	27 Mar 2020	0906_SW262_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW262	28 Sep 2020	0906_SW262_20200928	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05	-	0.05
SW262	20 Apr 2021	0906_SW262_20210420	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW262	22 Apr 2021			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW262	19 Oct 2021	0906_SW262_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
SW262	28 Apr 2022	0906_SW262_20220428	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW262	30 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW262	30 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW262	08 Nov 2022	0906_SW262_20221108	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW262	09 Nov 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW262	17 Apr 2023	0906_SW262_230417	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07	-	0.07
SW262	17 Apr 2023	0906_SW262_230417	EM2307789	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
SW262	15 Oct 2023	0906_SW262_231015	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW262	16 Apr 2024	0906_SW262_240416	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW262	06 Feb 2025	0906_SW262_250206	ES2503757	NSW_0906_PFASOMP_24a	Marshalls Creek	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW262	18 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW286	08 Apr 2018	0906_SW286_180408	ES1810698	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	15 Aug 2019	0906_SW286_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	27 Mar 2020	0906_SW286_20200327	ES2011453	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01

						Field					PFAS Perfluoroalkyl Sulfonic Acids							PFAS Perfluoroalkyl Carboxylic Acids											PFAS (n:2) Fluorotelomer Sulfonic Acids					
						DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)	NMethyl perfluorooctane sulfonamide (MeFOSA)
						mg/L	°C	mV	µS/cm	pH Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL											0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005
PFAS in Drinking Water (ADWG 2025)											1		0.03		0.008							0.2												
PFAS NEMP 2025 Freshwater 95%															0.13							220												
PFAS NEMP 2025 Recreational water quality guideline													2		2							10												
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area																													
SW286	02 Oct 2020	0906_SW286_20201002	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	68	12.1	37	149.6	8.51	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	22 Apr 2021	0906_SW286_20210422	ES2116333	NSW_0906_PFASOMP	Murrumbidgee River	5.98	14.8	116.4	162.4	7.73	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	22 Oct 2021	0906_SW286_20211022	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	5.51	15.8	95.7	91.9	7.76	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	03 May 2022	0906_SW286_20220503	EM2208150	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	8.19	16.6	145.6	0.061	5.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW286	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	8.19	16.6	145.6	0.061	5.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW286	08 Nov 2022	0906_SW286_20221108	EM2222399	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	09 Nov 2022			NSW_0906_PFASOMP	Murrumbidgee River	2.36	20.3	133.4	229.9	6.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW286	17 Apr 2023	0906_SW286_230417	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	18 Apr 2023			NSW_0906_PFASOMP_23	Murrumbidgee River	8.09	14.7	75.5	3990	7.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW286	14 Oct 2023	0906_QC104_231014	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	14 Oct 2023	0906_QC204_231014	1036481	NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW286	14 Oct 2023	0906_SW286_231014	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	7.78	16.7	60.6	97.8	7.77	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	16 Apr 2024	0906_QC206_240418	1090100_0906	NSW_0906_PFASOMP_24	Murrumbidgee River	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW286	18 Apr 2024	0906_QC106_240418	EM2406727	NSW_0906_PFASOMP_24	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	18 Apr 2024	0906_SW286_240418	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	4.86	18.8	134.5	175.5	7.63	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW286	26 Feb 2025	0906_SW286_250226	ES2506606	NSW_0906_PFASOMP_24a	Murrumbidgee River	8.06	23.8	83.6	153	7.74	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
SW286	16 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	9.56	14.5	182.7	352	7.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW288	12 Apr 2018	0906_SW288_180412	EM1806331	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	15 Aug 2018	0906_SW288_180815	ES1824412	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	16 Aug 2018	0906_QC101_180816	ES1824412	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	16 Aug 2018	0906_QC201_180816	613110	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW288	16 Aug 2018	0906_SW288_180816	ES1824412	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	04 Apr 2019	0906_SW288_190408	ES1911335	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	0.04	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	27 Mar 2020	0906_SW288_20200327	ES2011453	NSW_0906_PFASOMP	Forrest Hill STP	3.59	24.5	202.1	883	7.69	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	01 Oct 2020	0906_SW288_20201001	ES2034866	NSW_0906_PFASOMP	Forrest Hill STP	0.58	18.3	184.3	893	7.77	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	22 Apr 2021			NSW_0906_PFASOMP	Forrest Hill STP	0.81	23.8	172.3	1009	7.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW288	27 Apr 2021	0906_SW288_20210427	ES2116333	NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	21 Oct 2021	0906_SW288_20211021	ES2139237	NSW_0906_PFASOMP	Forrest Hill STP	0.29	19.9	182.4	1057	8.53	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	03 May 2022	0906_SW288_20220503	EM2208150	NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	7.54	22.4	39.9	0.456	7.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW288	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	7.54	22.4	39.9	0.456	7.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW288	09 Nov 2022	0906_SW288_20221109	EM2222399	NSW_0906_PFASOMP	Forrest Hill STP	0.42	21.2	160.4	947	7.87	<0.02	<0.02	<0.01	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	17 Apr 2023	0906_SW288_230417	EM2306921	NSW_0906_PFASOMP_23	Forrest Hill STP	0.61	21.8	179.4	990	7.51	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	16 Oct 2023	0906_SW288_231016	EM2318614	NSW_0906_PFASOMP_23	Forrest Hill STP	1.44	19.2	118.8	706	7.54	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	18 Apr 2024			NSW_0906_PFASOMP_24	Forrest Hill STP	1.16	20.2	112.9	528	7.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW288	19 Apr 2024	0906_SW288_240419	EM2406730	NSW_0906_PFASOMP_24	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	26 Feb 2025	0906_SW288_250226	ES2506594	NSW_0906_PFASOMP_24a	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW288	18 Sep 2025			NSW_0906_PFASOMP_24a	Forrest Hill STP	2.44	18.6	140.2	891	7.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW289	12 Apr 2018	0906_QC101_180412	EM1806331	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	0.02	0.22	<0.02	0.21	-	<0.02	<0.1	<0.02	0.07	<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
SW289	12 Apr 2018	0906_QC201_180412	594506	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	0.02	0.02	0.19	0.01	0.18	-	<0.01	<0.05	0.02	0.07	<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
SW289	12 Apr 2018	0906_SW289_180412	EM1806331	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	0.2	<0.02	0.2	-	<0.02	<0.1	<0.02	0.08	<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
SW289	04 Apr 2019	0906_SW289_190408	ES1911335	NSW_0906_PFAS	Forrest Hill STP	-	-	-	-	-	0.05	0.04	0.32	0.02	0.42	-	<0.02	<0.1	0.06	0.18	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
SW289	27 Mar 2020	0906_SW289_20200327	ES2011453	NSW_0906_PFASOMP	Forrest Hill STP	0.23	25.8	23.1	645	7.44	0.03	0.04	0.45	0.02	0.79	-	<0.02	<0.1	<0.02	0.12	<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
SW289	01 Oct 2020	0906_SW289_20201001	ES2034866	NSW_0906_PFASOMP	Forrest Hill STP	1.09	17.2	97.5	926	7.59	0.07	0.04	0.29	<0.02	0.05	-	<0.02	<0.1	0.05	0.12	0.03	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW289	22 Apr 2021			NSW_0906_PFASOMP	Forrest Hill STP	0.37	23.8	28.6	1275	7.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW289	27 Apr 2021	0906_SW289_20210427	ES2116333	NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	0.34	<0.02	0.24	-	<0.02	<0.1	<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
SW289	21 Oct 2021	0906_SW289_20211021	ES2139237	NSW_0906_PFASOMP	Forrest Hill STP	1.11	20.3	2	884	7.85	0.11	0.07	0.69	0.06	1.15	-	<0.02	<0.1	0.06	0.22	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
SW289	03 May 2022	0906_SW289_20220503	EM2208150	NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	0.04	0.03	0.29	0.02	0.65	-	<0.02	<0.1	<0.02	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW289	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	0.96	22.8	18.5	0.477	7.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW289	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	0.96	22.8	18.5	0.477	7.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW289	09 Nov 2022	0906_SW289_20221109	EM2222399	NSW_0906_PFASOMP	Forrest Hill STP	0.24	21.2	50	850	7.39	0.17	0.11	1.14	0.08	1.54	-	<0.02	<0.1	0.08	0.35	0.04	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW289	17 Apr 2023	0906_SW289_230417	EM2306921	NSW_0906_PFASOMP_23	Forrest Hill STP	0.73	21.6	60.9	1015	7.5	0.1	0.05	0.49	0.03	1.03	-	<0.02	<0.1	0.02	0.13	<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
SW289	16 Oct 2023	0906_SW289_231016	EM2318614	NSW_0906_PFASOMP_23	Forrest Hill STP	1.9	18.9	14.7	617	7.52	0.04	0.04	0.58	0.03	0.98	-	<0.02	<0.1	0.03	0.13	<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
SW289	18 Apr 2024			NSW_0906_PFASOMP_24	Forrest Hill STP	0.5	20.1	36.6	761	7.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW289	19 Apr 2024	0906_SW289_240419	EM2406730	NSW_0906_PFASOMP_24	Forrest Hill STP	-	-	-	-	-	0.08	0.02	0.3	<0.02	0.54	-	<0.02	<0.1	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW289	26 Feb 2025	0906_QC102_250226	ES2506594	NSW_0906_PFASOMP_24a	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	0.21	<0.02	0.67	<0.02	<0.02	<0.1	0.05	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW289	26 Feb 2025	0906_QC202_250226	1196147	NSW_0906_PFASOMP_24a	Forrest Hill STP	-	-	-	-	-	0.01	0.01	0.18	0.01	0.5	<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	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW289	26 Feb 2025	0906_SW289_250226	ES2506594	NSW_0906_PFASOMP_24a	Forrest Hill STP	-	-	-	-	-	<0.02	<0.02	0.2	<0.02	0.62	<0.02	<0.02	<0.1	0.05	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW289	18 Sep 2025			NSW_0906_PFASOMP_24a	Forrest Hill STP	3.45	16.8	26.8	1259	8.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW294	18 Jun 2018	0906_SW294_180618	ES1818232	NSW_0906_PFAS	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	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
SW294	15 Aug 2019	0906_SW294_190815	ES1926282	NSW_0906_PFAS	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	27 Mar 2020	0906_SW294_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	5.4	20	91.6	433.4	8	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	28 Sep 2020	0906_SW294_20200928	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	9.2	11.5	133	0.346	10.14	<0.02	<0.02	<0.02	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	20 Apr 2021	0906_SW294_20210420	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	27 Apr 2021			NSW_0906_PFASOMP	Marshalls Creek	4.79	15.1	169.9	589	8.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW294	19 Oct 2021	0906_SW294_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	6.92	14	104.2	126.5	8.73	<0.02	<0.02	<0.01	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	28 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	0.39	17.7	21	0.59	7.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW294	28 Apr 2022	0906_SW294_20220428	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	0.39	17.7	21	0.59	7.39	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	0.16	<0.05	<0.05	<0.02	<0.05
SW294	13 Apr 2023	0906_SW294_230413	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	5.3	16.1	48.2	717	11.55	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	15 Oct 2023	0906_SW294_231015	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	7.33	15.3	59.8	298.1	8.44	<0.02	<0.02	<0.01	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	16 Apr 2024	0906_SW294_240416	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	6.92	18.1	94.3	249.9	8.81	<0.02	<0.02	<0.01	<0.02	0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	27 Feb 2025	0906_SW294_250227	ES2506606	NSW_0906_PFASOMP_24a	Marshalls Creek	5.13	25.2	122	558	7.04	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW294	18 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	6.48	13.1	101.9	569	6.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW309	15 Aug 2019	0906_SW309_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	27 Mar 2020	0906_SW309_20200327	ES2011459	NSW_0906_PFASOMP	Murrumbidgee River	5.83	23.3	76.8	242.8	8.27	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	28 Sep 2020	0906_SW309_20200928	ES2034885	NSW_0906_PFASOMP	Murrumbidgee River	9.04	12.6	127.5	0.16	8.69	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	20 Apr 2021	0906_SW309_20210420	ES2116324	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	27 Apr 2021			NSW_0906_PFASOMP	Murrumbidgee River	5.42	16.7	142.5	169.6	7.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW309	19 Oct 2021	0906_SW309_20211019	ES2139303	NSW_0906_PFASOMP	Murrumbidgee River	5.8	15.4	102.3	131.3	7.55	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	02 May 2022	0906_SW309_20220502	EM2208334	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	5.89	17.3	175.2	0.151	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW309	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	5.89	17.3	175.2	0.151	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW309	08 Nov 2022	0906_SW309_221108	EM2222397	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	09 Nov 2022			NSW_0906_PFASOMP	Murrumbidgee River	4.55	18	149.5	129.7	6.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW309	14 Apr 2023	0906_SW309_230414	EM2306919	NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	15 Apr 2023			NSW_0906_PFASOMP_23	Murrumbidgee River	6.91	14.7	168.3	246.6	7.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW309	22 Aug 2023	SW309	EM2315195	NSW_0906_PFASMGMT	Murrumbidgee River	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	12 Oct 2023	0906_SW309_231012	EM2318611	NSW_0906_PFASOMP_23	Murrumbidgee River	7.6	16.4	46.5	126.3	7.65	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	15 Apr 2024	0906_SW309_240415	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	6.57	20.3	89.5	159.7	7.56	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW309	05 Feb 2025	0906_SW309_250205	ES2503757	NSW_0906_PFASOMP_24a	Murrumbidgee River	4.99	23.1	97.9	107.9	7.1	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
SW309	17 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	9.91	13.9	77.6	233	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW310	27 Mar 2020	0906_SW310_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	3.39	18.2	101.7	294.5	7.38	0.02	0.02	0.24	<0.02	0.58	-	<0.02	<0.1	<0.02	0.04	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	29 Sep 2020	0906_SW310_20200929	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	5.9	18.5	104.3	101.4	7.32	0.07	0.05	0.51	0.03	1.6	-	<0.02	<0.1	0.06	0.16	0.03	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
SW310	21 Apr 2021	0906_QC104_20210421	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	0.06	0.03	0.43	<0.02	0.92	-	<0.02	<0.1	0.02	0.08	<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
SW310	21 Apr 2021	0906_QC204_20210421	792774	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	0.05	0.02	0.36	0.02	1	<0.01	<0.01	<0.05	0.04	0.07	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW310	21 Apr 2021	0906_SW310_20210421	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	0.1	0.03	0.38	<0.02	0.85	-	<0.02	<0.1	0.02	0.06	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	27 Apr 2021			NSW_0906_PFASOMP	Marshalls Creek	3.73	17.8	144.1	200.8	7.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW310	19 Oct 2021	0906_SW310_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	4.72	21.7	104.8	189.2	7.88	0.04	0.02	0.26	0.02	1.21	-	<0.02	<0.1	0.03	0.07	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	30 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	0.05	18.7	65.3	0.19	7.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

						PFAS Perfluoroalkyl Sulfonamides					PFAS			
						NMethyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Nmethyl perfluorooctane sulfonamidoethanol (MeFOSE)	NEthyl perfluorooctane sulfonamide (EtFOSA)	NEthyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NEthyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)														
PFAS NEMP 2025 Freshwater 95%														
PFAS NEMP 2025 Recreational water quality guideline											2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area									
SW286	02 Oct 2020	0906_SW286_20201002	ES2034866	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	22 Apr 2021	0906_SW286_20210422	ES2116333	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	22 Oct 2021	0906_SW286_20211022	ES2139237	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	03 May 2022	0906_SW286_20220503	EM2208150	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW286	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW286	08 Nov 2022	0906_SW286_20221108	EM2222399	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	09 Nov 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW286	17 Apr 2023	0906_SW286_230417	EM2306921	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	18 Apr 2023			NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW286	14 Oct 2023	0906_QC104_231014	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	14 Oct 2023	0906_QC204_231014	1036481	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW286	14 Oct 2023	0906_SW286_231014	EM2318614	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	16 Apr 2024	0906_QC206_240418	1090100_0906	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW286	18 Apr 2024	0906_QC106_240418	EM2406727	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	18 Apr 2024	0906_SW286_240418	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW286	26 Feb 2025	0906_SW286_250226	ES2506606	NSW_0906_PFASOMP_24a	Murrumbidgee River	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW286	16 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW288	12 Apr 2018	0906_SW288_180412	EM1806331	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	15 Aug 2018	0906_SW288_180815	ES1824412	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	16 Aug 2018	0906_QC101_180816	ES1824412	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	16 Aug 2018	0906_QC201_180816	613110	NSW_0906_PFAS	Forrest Hill STP	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	-	<0.1
SW288	16 Aug 2018	0906_SW288_180816	ES1824412	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	04 Apr 2019	0906_SW288_190408	ES1911335	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.04	-	0.04
SW288	27 Mar 2020	0906_SW288_20200327	ES2011453	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	01 Oct 2020	0906_SW288_20201001	ES2034866	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	22 Apr 2021			NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW288	27 Apr 2021	0906_SW288_20210427	ES2116333	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	21 Oct 2021	0906_SW288_20211021	ES2139237	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	03 May 2022	0906_SW288_20220503	EM2208150	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW288	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW288	09 Nov 2022	0906_SW288_20221109	EM2222399	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW288	17 Apr 2023	0906_SW288_230417	EM2306921	NSW_0906_PFASOMP_23	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	16 Oct 2023	0906_SW288_231016	EM2318614	NSW_0906_PFASOMP_23	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	18 Apr 2024			NSW_0906_PFASOMP_24	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW288	19 Apr 2024	0906_SW288_240419	EM2406730	NSW_0906_PFASOMP_24	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW288	26 Feb 2025	0906_SW288_250226	ES2506594	NSW_0906_PFASOMP_24a	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	<0.05	0.02
SW288	18 Sep 2025			NSW_0906_PFASOMP_24a	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW289	12 Apr 2018	0906_QC101_180412	EM1806331	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.43	0.53	-	0.55
SW289	12 Apr 2018	0906_QC201_180412	594506	NSW_0906_PFAS	Forrest Hill STP	<0.05	<0.05	<0.05	<0.05	<0.05	0.37	0.51	-	0.54
SW289	12 Apr 2018	0906_SW289_180412	EM1806331	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.4	0.51	-	0.51
SW289	04 Apr 2019	0906_SW289_190408	ES1911335	NSW_0906_PFAS	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.74	1.08	-	1.14
SW289	27 Mar 2020	0906_SW289_20200327	ES2011453	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	1.24	1.42	-	1.48
SW289	01 Oct 2020	0906_SW289_20201001	ES2034866	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.34	0.62	-	0.66
SW289	22 Apr 2021			NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW289	27 Apr 2021	0906_SW289_20210427	ES2116333	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.58	0.7	-	0.7
SW289	21 Oct 2021	0906_SW289_20211021	ES2139237	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	1.84	2.29	-	2.42
SW289	03 May 2022	0906_SW289_20220503	EM2208150	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.94	1.09	-	1.14
SW289	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW289	17 May 2022			NSW_0906_PFASOMP	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW289	09 Nov 2022	0906_SW289_20221109	EM2222399	NSW_0906_PFASOMP	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	2.68	3.4	-	3.59
SW289	17 Apr 2023	0906_SW289_230417	EM2306921	NSW_0906_PFASOMP_23	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	1.52	1.8	-	1.88
SW289	16 Oct 2023	0906_SW289_231016	EM2318614	NSW_0906_PFASOMP_23	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	1.56	1.79	-	1.86
SW289	18 Apr 2024			NSW_0906_PFASOMP_24	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW289	19 Apr 2024	0906_SW289_240419	EM2406730	NSW_0906_PFASOMP_24	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.84	1.01	-	1.03
SW289	26 Feb 2025	0906_QC102_250226	ES2506594	NSW_0906_PFASOMP_24a	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.88	1	<0.05	1
SW289	26 Feb 2025	0906_QC202_250226	1196147	NSW_0906_PFASOMP_24a	Forrest Hill STP	<0.05	<0.05	<0.05	<0.05	<0.05	0.68	0.76	-	0.78
SW289	26 Feb 2025	0906_SW289_250226	ES2506594	NSW_0906_PFASOMP_24a	Forrest Hill STP	<0.02	<0.05	<0.05	<0.02	<0.05	0.82	0.94	<0.05	0.94
SW289	18 Sep 2025			NSW_0906_PFASOMP_24a	Forrest Hill STP	-	-	-	-	-	-	-	-	-
SW294	18 Jun 2018	0906_SW294_180618	ES1818232	NSW_0906_PFAS	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.08	-	0.08
SW294	15 Aug 2019	0906_SW294_190815	ES1926282	NSW_0906_PFAS	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW294	27 Mar 2020	0906_SW294_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW294	28 Sep 2020	0906_SW294_20200928	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW294	20 Apr 2021	0906_SW294_20210420	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.03	-	0.03
SW294	27 Apr 2021			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW294	19 Oct 2021	0906_SW294_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
SW294	28 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW294	28 Apr 2022	0906_SW294_20220428	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.18	-	0.18
SW294	13 Apr 2023	0906_SW294_230413	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW294	15 Oct 2023	0906_SW294_231015	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
SW294	16 Apr 2024	0906_SW294_240416	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01	-	0.01
SW294	27 Feb 2025	0906_SW294_250227	ES2506606	NSW_0906_PFASOMP_24a	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW294	18 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW309	15 Aug 2019	0906_SW309_190815	ES1926282	NSW_0906_PFAS	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	27 Mar 2020	0906_SW309_20200327	ES2011459	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	28 Sep 2020	0906_SW309_20200928	ES2034885	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	20 Apr 2021	0906_SW309_20210420	ES2116324	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	27 Apr 2021			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW309	19 Oct 2021	0906_SW309_20211019	ES2139303	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	02 May 2022	0906_SW309_20220502	EM2208334	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW309	17 May 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW309	08 Nov 2022	0906_SW309_221108	EM2222397	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	09 Nov 2022			NSW_0906_PFASOMP	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW309	14 Apr 2023	0906_SW309_230414	EM2306919	NSW_0906_PFASOMP	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	15 Apr 2023			NSW_0906_PFASOMP_23	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW309	22 Aug 2023	SW309	EM2315195	NSW_0906_PFASMGMT	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	12 Oct 2023	0906_SW309_231012	EM2318611	NSW_0906_PFASOMP_23	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	15 Apr 2024	0906_SW309_240415	EM2406730	NSW_0906_PFASOMP_24	Murrumbidgee River	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW309	05 Feb 2025	0906_SW309_250205	ES2503757	NSW_0906_PFASOMP_24a	Murrumbidgee River	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW309	17 Sep 2025			NSW_0906_PFASOMP_24a	Murrumbidgee River	-	-	-	-	-	-	-	-	-
SW310	27 Mar 2020	0906_SW310_20200327	ES2011453	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.82	0.9	-	0.92
SW310	29 Sep 2020	0906_SW310_20200929	ES2034866	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	2.11	2.48	-	2.56
SW310	21 Apr 2021	0906_QC104_20210421	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	1.35	1.54	-	1.57
SW310	21 Apr 2021	0906_QC204_20210421	792774	NSW_0906_PFASOMP	Marshalls Creek	<0.05	<0.05	<0.05	<0.05	<0.05	1.36	1.57	-	1.63
SW310	21 Apr 2021	0906_SW310_20210421	ES2116333	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	1.23	1.43	-	1.46
SW310	27 Apr 2021			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW310	19 Oct 2021	0906_SW310_20211019	ES2139237	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	1.47	1.63	-	1.67
SW310	30 Apr 2022			NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	-	-	-	-

						Field					PFAS Perfluoroalkyl Sulfonic Acids							PFAS Perfluoroalkyl Carboxylic Acids											PFAS (n:2) Fluorotelomer Sulfonic Acids					
						DO (Field)	Temperature (Field)	Redox Potential (Field)	Electrical Conductivity (field)	pH (Field)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)	NMethyl perfluorooctane sulfonamide (MeFOSA)
						mg/L	°C	mV	µS/cm	pH Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL											0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.002	0.005
PFAS in Drinking Water (ADWG 2025)											1		0.03		0.008							0.2												
PFAS NEMP 2025 Freshwater 95%															0.13							220												
PFAS NEMP 2025 Recreational water quality guideline													2		2							10												
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area																													
SW310	30 Apr 2022	0906_SW310_20220430	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	0.05	18.7	65.3	0.19	7.65	<0.02	<0.02	<0.01	<0.02	0.04	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	04 Nov 2022	0906_QC101_20221104	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	0.12	<0.02	0.48	-	<0.02	<0.1	<0.02	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	04 Nov 2022	0906_QC201_221104	940477	NSW_0906_PFASOMP	Marshalls Creek	4.91	19.9	48.9	124.5	6.88	0.01	<0.01	0.12	<0.01	0.71	<0.01	<0.01	<0.05	0.02	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05
SW310	04 Nov 2022	0906_SW310_20221104	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	0.13	<0.02	0.55	-	<0.02	<0.1	<0.02	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	14 Apr 2023	0906_SW310_230414	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	4.3	22.7	119.1	195.2	7.38	0.12	0.05	0.53	0.02	1.48	-	<0.02	<0.1	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
SW310	14 Apr 2023	0906_SW310_230414	EM2307789	NSW_0906_PFASOMP	Marshalls Creek	-	-	-	-	-	0.1	0.04	0.52	<0.02	1.31	-	<0.02	<0.10	0.02	0.08	<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
SW310	15 Oct 2023			NSW_0906_PFASOMP_23	Marshalls Creek	6.54	13.4	30.7	265.5	7.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW310	16 Oct 2023	0906_SW310_231016	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	-	-	-	-	-	<0.02	0.02	0.28	<0.02	0.63	-	<0.02	<0.1	0.02	0.06	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	17 Apr 2024	0906_SW310_240417	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	3.43	17.4	78.8	175.2	6.83	<0.02	<0.02	0.04	<0.02	0.26	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	28 Feb 2025	0906_SW310_250228	ES2506606	NSW_0906_PFASOMP_24a	Marshalls Creek	0	25.2	103.9	270.6	6.92	<0.02	<0.02	0.09	<0.02	0.4	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW310	15 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	9.2	20.8	118.5	110	7.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SW311	16 Aug 2023	0906_SW311_230816	EM2314805	NSW_0906_PFASMGMT	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	0.02	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW311	13 Mar 2024	0906_MCREEK_240313	EM2403958	NSW_0906_PFASMGMT	Marshalls Creek	-	-	-	-	-	<0.02	<0.02	<0.01	<0.02	<0.01	-	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW311	05 Feb 2025	0906_SW311_250205	ES2503757	NSW_0906_PFASOMP_24a	Marshalls Creek	4.52	27.3	12.1	691	7.08	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
SW311	17 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	5.97	15	80.8	568	8.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																																		
Minimum Concentration						0	10.2	202.1	0.061	5.26	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005
Maximum Concentration						68	29.3	199.6	3,990	11.55	0.21	0.23	1.81	0.12	3.34	<0.02	<0.04	<0.2	0.17	0.59	0.08	0.17	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09	<0.05	0.34	<0.05	<0.05	<0.05	<0.09
Number of Env Standard Exceedances						0	0	0	0	0	0	0	158	0	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Env Standard Exceedances (Detects Only)						0	0	0	0	0	0	0	158	0	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Detects						100	100	100	100	100	27	25	57	16	62	3	0	1	20	39	11	34	0	0	0	0	0	0	0	4	0	0	0	0
% of NonDetects						0	0	0	0	0	73	75	43	84	38	97	100	99	80	61	89	66	100	100	100	100	100	100	100	96	100	100	100	100
% of Detects at or above Env Standards						0	0	0	0	0	0	0	46	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Results Below Env Standards or NonDetect						100	100	100	100	100	100	100	54	100	38	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Number of Results						179	179	179	179	179	333	319	342	319	342	33	319	341	333	333	333	342	319	319	319	319	319	319	333	342	333	333	319	319

Environmental Standards
NHMRC, 25 June 2025, PFAS in Drinking Water (ADWG 2025)
HEPA, March 2025, PFAS NEMP 2025 Freshwater 95%
HEPA, March 2025, PFAS NEMP 2025 Recreational water quality guideline

Notes
1. It is noted that the LOR was reduced following the completion of the April 2024 sampling event. This was initiated when NHMRC announced draft drinking water guideline values, that were lower than the LOR that was used in previous events.

						PFAS Perfluoroalkyl Sulfonamides					PFAS			
						NMethyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Nmethyl perfluorooctane sulfonamidoethanol (MeFOSE)	NEthyl perfluorooctane sulfonamide (EtFOSA)	NEthyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NEthyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Perfluorohexadecanoic acid (PFHxDA)	Sum of PFAS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
PFAS in Drinking Water (ADWG 2025)														
PFAS NEMP 2025 Freshwater 95%														
PFAS NEMP 2025 Recreational water quality guideline											2			
Location Code	Date	Field ID	Lab Report Number	Project ID	Investigation Area									
SW310	30 Apr 2022	0906_SW310_20220430	EM2208150	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04	-	0.04
SW310	04 Nov 2022	0906_QC101_20221104	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.6	0.64	-	0.64
SW310	04 Nov 2022	0906_QC201_221104	940477	NSW_0906_PFASOMP	Marshalls Creek	<0.05	<0.05	<0.05	<0.05	<0.05	0.83	0.9	-	0.9
SW310	04 Nov 2022	0906_SW310_20221104	EM2222399	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.68	0.72	-	0.72
SW310	14 Apr 2023	0906_SW310_230414	EM2306921	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	2.01	2.28	-	2.35
SW310	14 Apr 2023	0906_SW310_230414	EM2307789	NSW_0906_PFASOMP	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	1.83	2.06	-	2.1
SW310	15 Oct 2023			NSW_0906_PFASOMP_23	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW310	16 Oct 2023	0906_SW310_231016	EM2318614	NSW_0906_PFASOMP_23	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.91	1.01	-	1.03
SW310	17 Apr 2024	0906_SW310_240417	EM2406730	NSW_0906_PFASOMP_24	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.3	0.3	-	0.3
SW310	28 Feb 2025	0906_SW310_250228	ES2506606	NSW_0906_PFASOMP_24a	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.49	0.49	<0.05	0.49
SW310	15 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	-	-	-	-	-	-	-	-	-
SW311	16 Aug 2023	0906_SW311_230816	EM2314805	NSW_0906_PFASMGMT	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	-	0.02
SW311	13 Mar 2024	0906_MCREEK_240313	EM2403958	NSW_0906_PFASMGMT	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	-	<0.01
SW311	05 Feb 2025	0906_SW311_250205	ES2503757	NSW_0906_PFASOMP_24a	Marshalls Creek	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW311	17 Sep 2025			NSW_0906_PFASOMP_24a	Marshalls Creek	-	-	-	-	-	-	-	-	-
Statistics														
Minimum Concentration						<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
Maximum Concentration						<0.05	<0.09	<0.09	<0.05	<0.09	4.88	5.83	<0.05	6.18
Number of Env Standard Exceedances						0	0	0	0	0	17	0	0	0
Number of Env Standard Exceedances (Detects Only)						0	0	0	0	0	17	0	0	0
% of Detects						0	0	0	0	0	63	64	0	63
% of NonDetects						100	100	100	100	100	37	36	100	37
% of Detects at or above Env Standards						0	0	0	0	0	5	0	0	0
% of Results Below Env Standards or NonDetect						100	100	100	100	100	95	100	100	100
Total Number of Results						319	319	319	319	319	342	333	19	319

Environmental Standards
NHMRC, 25 June 2025, PFAS in Drinking Water (ADWG 2025)
HEPA, March 2025, PFAS NEMP 2025 Freshwater 95%
HEPA, March 2025, PFAS NEMP 2025 Recreational water quality guideline

Notes
1. It is noted that the LOR was reduced following the completion of the April 2024 sampling event. This was initiated when NHMRC announced draft drinking water guideline values, that were lower than the LOR that was used in previous events.

Appendix C. Jacobs (2025c). RAAF Base Wagga PFAS Ongoing Monitoring Plan - Sampling and Analysis Quality Plan

RAAF Base Wagga PFAS Ongoing Monitoring Plan - Sampling and Analysis Quality Plan (SAQP)

Document no: IS419100-WAG-ZM-PLN-001
Revision: Rev 2

Department of Defence
PFAS 2021/22 – 194

RAAF Base Wagga
23 January 2025

RAAF Base Wagga PFAS Ongoing Monitoring Plan - Sampling and Analysis Quality Plan (SAQP)

Client name:	Department of Defence		
Project name:	RAAF Base Wagga		
Client reference:	PFAS 2021/22 – 194	**Project no:**	IS419100
Document no:	IS419100-WAG-ZM-PLN-001	**Project manager:**	GM
Revision:	Rev 2	**Prepared by:**	LE
Date:	23 January 2025	**File name:**	WAG OMP SAQP_IS419100-WAG-ZM-PLN-001_Rev 2

Document history and status

Revision	Date	Description	Author	Reviewed	Approved
0	14/10/24	Draft for Client Review	LE	GM	DL
1	9/12/24	Revised Draft	GM	DL	DL
2	23/1/25	Final	GM	DL	DL

Jacobs Group (Australia) Pty Ltd

Level 7, 177 Pacific Highway
North Sydney, NSW 2060
PO Box 632
North Sydney, NSW 2059
Australia

T +61 2 9928 2100
F +61 2 9928 2444
www.jacobs.com

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1. Introduction

The Department of Defence (Defence) has engaged Jacobs Group (Australia) Pty Ltd (Jacobs) as the Lead Consultant for delivery of the Per- and polyfluoroalkyl substances (PFAS) Management Area Plan (PMAP) at Royal Australian Air Force (RAAF) Base Wagga Wagga, NSW (the base, Site ID 0906).

Jacobs has prepared this Sampling and Analysis Quality Plan (SAQP) for the implementation of the PFAS Ongoing Monitoring Plan (OMP) (Defence, 2019a) at the base and the surrounding off-base areas (refer to Figure 1).

The purpose of the OMP is to collect data that will enable Defence to maintain an up to date understanding of the distribution, and transport (migration pathways and rates) of PFAS at the base and in the Management Area (refer to Section 2.1.1 and Figure 1).

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP (Defence, 2019b).

1.1 Scope & objectives

The objectives of the monitoring as set out in the OMP are to:

- Monitor changes in PFAS concentrations in surface water discharge to the Council stormwater network from the base as well as downstream locations along Marshalls Creek and at the confluence of Marshalls Creek and Murrumbidgee River.
- Further refine the understanding of the extent of groundwater contamination plume around the Gumly Gumly Wetland and monitor the movement of this plume.
- Further investigate the PFAS impacts identified in the groundwater well to the east of the base (MW223).
- Monitor changes in PFAS concentrations in Kyeamba Creek.
- Monitor changes in PFAS concentrations in the Murrumbidgee River.
- Monitor changes in PFAS concentrations in stormwater and sewer discharged from the base.
- Collect hydrogeological data for the potential further development of the RAAF Base Wagga Groundwater Model.

The scope of the OMP including monitoring locations, sample type and sample collection frequency as well as the rationale for these are all set out in the OMP.

The purpose of this SAQP is to present the specific monitoring sampling methodologies and quality assurance / quality control (QA/QC) measures and data management requirements for the monitoring.

1.2 Previous investigations

Defence commenced an environmental investigation of PFAS at the base and surrounding areas in 2017. This investigation involved a Detailed Site Investigation (Jacobs, 2018a) as well as a Human Health and Ecological Risk Assessment (HHERA) (EnRisks, 2018). More recently, further investigations into PFAS infiltration to the stormwater and sewer networks (Jacobs, 2019; Jacobs, 2020b) and source characterisation (Jacobs, 2020c) at the base have been completed. These reports detail the nature and extent of PFAS at the base and surrounding areas, as well as the associated risks pertaining to PFAS contamination from legacy use of Aqueous Film Forming Foam (AFFF).

The PMAP (Defence, 2019b) was developed and includes the overall purpose and requirements of the OMP. Additionally, to date, the following reports have been prepared under the OMP:

- Nine OMP Sampling Event Factual Reports (Cardno, 2020a-b, 2022a-c, 2023a-b, 2024a-b).
- Jacobs (2020), Ongoing Monitoring Program Groundwater Well Installation Report, December 2020

1.3 Guidelines and legislation

This SAQP has been developed with reference to the following standards and guidelines:

- Australian and New Zealand Guidelines, 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality
- Australian Standard (2005), AS 4482-2005, Guide to the investigation and sampling of sites with potentially contaminated soils, Part 1 – Non-volatile and semi-volatile compounds (withdrawn as pending revision, referred to for 'state of knowledge')
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- Department of Defence (2024), PFAS OMP Ongoing Monitoring Program Reporting Guidance, Version 0. February 2024
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- NSW Environmental Protection Authority (EPA, 2004), Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales, Publication 1669.2, March 2004
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- NSW EPA (2022), Contaminated Land Guidelines - Sampling Design Part 1 – application
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- Heads of Environmental Protection Authority's Australia and New Zealand (HEPA) (2020), PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020
- National Environment Protection Council (NEPC) (1999), National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013) (ASC NEPM)
- National Health and Medical Research Council (NHMRC) (2019), Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water, August 2019
- USEPA (2006), Guidance for the Data Quality Objectives Process (EPA QA/G-4)
- USEPA (2002), Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)

2. Site Setting

2.1 Site description

A detailed description of the base is provided in the OMP (Defence,2019a), and is summarised below.

RAAF Base Wagga is located approximately 10 km east of the central business district of Wagga Wagga, NSW, and covers an area of 3.1 square kilometres. The area has been used as a Royal Australian Air Field since the 1920s.

The base is situated in the suburb of Forest Hill, south of Sturt Highway and east of the residential area.

The base includes the following features:

- Buildings and facilities associated with administration, training, recreation and support services.
- Various accommodation blocks.
- Aircraft hangars (used for maintenance and training), warehousing and refuelling infrastructure.
- Former golf course (no longer in use) in the north-eastern portion of the base.
- Operational airfield, Wagga Wagga City Domestic Airport, in the southern portion of the base and operated by Wagga Wagga City Council (Council) via a 30-year lease agreement (due to expire on 30th July 2025) established between Defence and Council.
- On-base Dam, west of the Airport runway.

2.1.1 Monitoring Area description

A Management Area was defined in the PMAP (Defence, 2019b) based on current or potential elevated risks of exposure to PFAS from the base identified in the Detailed Site Investigation (DSI , Jacobs 2018a) and HHERA (EnRisks, 2018). This consisted of three zones; a base management zone, a surface water management zone and a groundwater management zone. These zones were defined so that government agencies, property owners and other community members were aware of potential exposure risks associated with PFAS within the zones.

In 2021, the NSW government PFAS Technical Advisory Group advised Defence that management zones are no longer required as part of the RAAF Base Wagga PMAP. This was publicly communicated by Defence through a fact sheet. The management zones will be removed in the next revision of the PMAP.

A Monitoring Area was defined in the previous version of the OMP SAQP (Cardno, 2024). The monitoring area consists of an On-Base Monitoring Area inclusive of the RAAF base as well as an operational airfield, Wagga Wagga City Domestic Airport (WWCDA), which is operated by the Wagga Wagga City Council (Council). The Monitoring Area also includes an Off-Base Monitoring Area comprising areas to the east, north, west and north-west of the base.

The Monitoring Area is presented in Figure 1, Appendix A.

2.1.2 Site definition and planning

For the purposes of this SAQP, the base is defined as comprising RAAF Base Wagga. A detailed description of the base is provided in the OMP (Defence, 2019a). The base location is presented on Figure 1.

Key site identification details are presented Table 1.

Table 1. Site Identification Details

Details	Description
Site Address	RAAF Base Wagga, NSW, 2650
Land Description	RAAF Base Wagga
Owner	Department of Defence
Title Details	▪ Lots 1,2,3 and 4 in DP 1113351 ▪ Lot 2 in DP848579 ▪ Lots 62 and 141 in DP757232 ▪ Lots 1 and 2 in DP85382 ▪ Lot 1 in DP436207 ▪ Lots 1 and 2 in DP819642 ▪ Lot 1 in DP190467
Planning Zone / Land use	SP2 (Defence and Airport) Infrastructure. The base is Commonwealth owned land. An exception is Lot 2 DP 819642 which is a disused railway line reserve, running east-west across the base, owned by the NSW Government (RailCorp) and leased by Defence.
Local Government Authority (LGA)	Wagga Wagga City Council

Source: Defence (2019a).

2.1.3 Surrounding land uses and zoning

Land surrounding the base is zoned General Residential (R1), Medium Residential (R3), Public Recreation (RE1), General Industrial (E4) and Rural Landscape (RU1). The surrounding land uses are outlined in Table 2.

Table 2. Surrounding Land Uses

Direction	Land Use
North	▪ Sturt Highway, then farm lands ▪ Sewerage treatment plant ▪ Residential and minor commercial properties (Forest Hill) to the north-west, then Gumly Gumly Wetland
West	▪ Farm lands
East	▪ Residential and commercial properties to the north-west (Forest Hill), then Gumly Gumly Wetland ▪ The Murray Cod Hatcheries are located within the Gumly Gumly Wetland ▪ Agricultural lands (small-holdings), then town of Wagga Wagga
South	▪ Agricultural lands

2.1.4 Environmental setting

Key details defining the site are summarised in Table 3.

Table 3. Key Site Details

Setting	Description
Climate	Climate data measured at the Bureau of Meteorology (BoM) gauge 072150, Wagga Wagga Aeronautical Meteorological Observer (AMO), located at the airport within the base boundary is available from 1942 to present day (BoM, 2024). The following is a summary of temperature and rainfall data from this station: ▪ Mean monthly maximum temperatures have varied from 12.8 °C in July to 31.9 °C in January. ▪ Mean monthly minimum temperatures have varied from 2.8 °C in July to 16.5 °C in January. ▪ Mean rainfall is 573.2 mm per annum. ▪ Mean monthly rainfall is generally consistent year-round with slight increase between May (50.3 mm) and October (56.5 mm). The prevailing wind direction in the morning (9 am) is towards the east while in the afternoon (3 pm) the prevailing winds are towards the west (BoM, 2024).
Topography	The base is situated within the Murrumbidgee Valley and therefore the local topography is relatively flat and has acted as the floodplain for the Murrumbidgee River. Ground elevation at the base ranges from approximately 230 m Australia Height Datum (m AHD) in the south-east to approximately 200 m AHD in the north-west. The area surrounding the base slopes gently down to Kyeamba Creek to the north-east and to Gumly Gumly Wetland and Murrumbidgee River to the north-west. To the north, there is a gentle slope up to an area of granite outcrop, from where it slopes down towards the Murrumbidgee River to the north and north-west.
Geology	**Regional Geology** The base and surrounding area is underlain by alluvial and colluvial sediments (silts and clays) of Cainozoic age. These sediments are underlain by Ordovician-aged shale and siltstone, and by Silurian-aged Wantabadgery granite (1:100,000 Wagga Wagga and Kyeamba Valley geological map – Australian Geological Survey Organisation, Raymond 1993). **Base Specific Geology** Drilling works as part of the DSI (Jacobs, 2018a) identified alluvial/colluvial sediments to be about 60 m thick in the vicinity of the base. The upper sediments (Cowra Formation) appear to be approximately 20 m thick. The deeper, coarser grained sediments (Lachlan Formation) are approximately 40 m thick. However, there is no distinct boundary between the two, apart from a change in colouration from red-brown sediments in the Cowra Formation to grey sediments in the Lachlan Formation.
Acid Sulfate Soil	A review of the Acid Sulphate Soils (ASS) risk mapping, available on the Australian Soil Resources Information System (ASRIS) atlas online database indicates that the base and surrounds have an extremely low probability of ASS.
Hydrology	There are four principal surface water drainage pathways from the base: ▪ **Catchment 1: Main stormwater discharge point** – The majority of stormwater from the developed areas of the base is captured via a pit and pipe network that discharges to Gumly Gumly Wetlands via an underground Council stormwater network, then an open channel west of

Setting	Description
	Elizabeth Avenue. The key PFAS source areas on base are all located within catchment 1. The discharge point from base to the Council stormwater network is accessible via a maintenance pit in the north west corner of the base. ▪ **Catchment 2: North West Culvert** - Captures stormwater from the north west portion of the Airport on base within open earthen channels and concrete culverts. There are no key PFAS source areas within this catchment. Discharges from the base to the west occur via a culvert under Elizabeth Avenue into a series of dams on private property then into Gregadoo Creek. ▪ **Catchment 3: South West Dam** – Captures stormwater from the south west portion of the Airport on base within open earthen channels and concrete culverts. There are no key PFAS source areas within this catchment. Surface water runoff from this catchment collects in a dam in the south west corner of the Airport prior to discharge via a culvert under Elizabeth Avenue into a series of dams on private property then into Gregadoo Creek. ▪ **Catchment 4: South East Culvert** – Captures stormwater from the south eastern portion of the Airport on base within open earthen channels and concrete culverts. There are no key PFAS source areas within this catchment. Water from the channel at this discharge point overflows on to private land and then into a series of dams prior to entering Kyeamba Creek. Kyeamba Creek and Marshall Creek discharge to the Murrumbidgee River to the north and north-west respectively.
Hydrogeology	The hydrogeology at the base consists predominantly of alluvial and colluvial sediments (silts and clays) with relatively deep aquifers (>20 m). The aquifers are typically recharged through surface water via rainfall in the local catchment. The regional water table within the sediments is mainly associated with the deeper Lachlan Formation. Perched water is present on-base. However, this is discontinuous and does not appear to interact with the underlying aquifers (Jacobs, 2018a). **Depth to Groundwater** Groundwater in the Cowra formation was encountered between 167.6 m and 171.3 mAHD in October 2023, with almost half the well locations in this formation being dry (Cardno, 2024b). Groundwater in the Lachlan Formation was encountered between 166.1m and 202.5 mAHD. Groundwater gauging data from October 2023 OMP indicate that depth to groundwater in the alluvium ranges from approximately 20 to 40 m below ground level (mbgl) on-base (Cardno, 2024b). **Groundwater Flow Direction** The regional groundwater flow is interpreted to be to the north-west, towards the Murrumbidgee River.
Environmental Sensitive Areas	The following threatened species and communities have been identified in the Murrumbidgee River, Marshalls Creek and the Gumly Gumly Wetland as having the largest potential susceptibility to elevated PFAS concentrations: ▪ Birds - Australian Bittern (Botaurus poiciloptilus), White-fronted Chat (Epthianura albifrons), Australian Painted Stripe (Rostratula australis), Superb Parrot (Polytelis swainsonii) and Little Eagle (Hieraaetus morphnoides).

Setting	Description
	▪ Mammals - Eastern Bentwing Bat (Miniopterus schreibersii oceanensis) and Greg-headed Flying Fox (Pteropus poliocephalus). ▪ Fish and crustaceans - Murray Cod (Maccullochella peelii), Trout Cod (Maccullochella macquariensis), Silver Perch (Bidyanus bidyanus), Murray Crayfish (Euastacus armatus), ▪ Amphibians - Sloane's Froglet (Crinia sloanei) and Southern Bell Frog (Litoria raniformis). ▪ Endangered Population – Squirrel Glider in the Wagga Wagga Local Government Area (Petaurus norfolcensis) ▪ Ecological Community – Lower Murray River aquatic ecological community. ▪ Ecological Community - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. Other sensitive areas in the area surrounding the base include the Groundwater Dependent Ecosystems (aquatic and benthic flora and fauna) inhabiting Kyeamba Creek and Gregadoo Creek.

3. Conceptual site model

A Conceptual Site Model (CSM) was developed from the findings of the DSI (Jacobs, 2018a) and the HHERA (EnRisks, 2018) and was included in the PMAP. A copy of the CSM diagrams are provided as Figure 5 to Figure 7. The CSM identified primary PFAS source areas (where AFFF containing PFAS is understood to have been used in the past) and secondary PFAS source areas (where PFAS has migrated to a location where it creates a concentration of impact).

Additional investigations have commenced as part of the PMAP since the CSM was prepared. The investigations are located to the west of the base, in the East Wagga area. The investigations installed groundwater wells targeting groundwater within the Cowra formation, Upper Lachlan Formation and Lower Lachlan formation at several points. The additional locations aim to provide additional data points that will inform the spatial distribution of the groundwater plume extending from the Gumly Gumly Wetland; and improve the understanding of the contribution of Marshalls Creek in the distribution of PFAS in the East Wagga area.

A full revision of the CSM will be undertaken as part of a revised PMAP (currently awaiting the completion of the monitoring associated with the new well installations). The OMP will also be revised as part of this process and this will then lead to revisions to this SAQP.

3.1 PFAS source areas

Four primary PFAS source areas were identified as part of the Jacobs DSI (2018a) and PMAP (Defence, 2019b). These areas include:

- Former fire training area near the eastern end of the runway (RMV0093).
- Current Fire Station (RMV0097).
- Fire Extinguisher Concrete Pad (RMV0098) and Former Fire Station Area.
- Aircraft Parking Area to the south of Building 88.

Stormwater and sewer infrastructure has been identified as an on-base secondary source. Off-base secondary source areas include the following:

- Forest Hill Sewage Treatment Plant (STP) and associated ponds
- Gumly Gumly Wetland
- Marshalls Creek
- Farm dams

The lateral and vertical extents of detected PFAS in soil were generally defined around the impacted areas during the DSI (Jacobs, 2018a). For perched groundwater, the PFAS extent is defined by the monitoring well network, however, impacts are not fully delineated to below the limit of reporting.

3.2 Migration pathway

Migration of PFAS from source areas occurs via several pathways. The following migration pathways have been identified:

- Surface water and stormwater drainage from the base is transported to the Gumly Gumly Wetland via an underground Council main from the base to Elizabeth Avenue and then via an open channel to the wetland.

- During periods of high rainfall, water from Gumly Gumly wetland flows on to Marshalls Creek which ultimately flows into the Murrumbidgee River. Since the completion of the Stage1 Groundwater Modelling conducted in 2018 (Jacobs, 2018b), 20 new groundwater wells have been installed as part of the PMAP and monitored as part of the OMP. Additional information gained through OMP sampling suggests that Marshalls Creek may be acting as an additional secondary source of PFAS to groundwater, and that PFAS is present outside of the predicted extent of the plume in the Stage 1 Groundwater Model.
- Drainage to the east to Kyeamba Creek via a series of ephemeral dams, and drainage to the west to Gregadoo Creek via a series of ephemeral dams, have been identified as less significant pathways, with PFAS impact limited to farm dams and soil in close proximity to the base.
- In-situ and laboratory leachability testing of soil on-base has identified the PFAS is readily leaching from soil into pore water and likely contributing to these impacts observed in perched groundwater. However, given the perched water is discontinuous, horizontal movement of PFAS in perched water in soil is not a significant pathway from the source areas.
- Vertical migration of PFAS in soil and surface water to the Cowra Formation, and lateral migration via groundwater flow.
- There is some vertical migration of PFAS from the Cowra Formation to the Lachlan Formation, however, this is not considered to be a significant pathway on-base due to the Cowra Formation being dominated by dense high plasticity clays, which combined with the overall thickness of this formation, acts as an aquitard. However, geology in the area of Gumly Gumly Wetland includes more permeable soils, the Cowra Formation is less thick in the wetland area than on base and water level monitoring near the Murray Cod Hatcheries indicates connectivity between the Cowra and Lachlan Formations in this area. Groundwater in the Lachlan Formation has been identified as impacted with PFAS within the vicinity of the Gumly Gumly Wetland (Cardno, 2020a).
- Migration of PFAS impacts from source areas into the on-base sewers and subsequent transport to the Forest Hill STP. The DSI (Jacobs, 2018a) identified PFAS concentrations in sewage discharged from the base to the Forest Hill STP.

3.3 Receptors

Receptors that exist on-base, as identified in the DSI (Jacobs, 2018a) and HHERA (EnRisks, 2018), include:

- Construction and maintenance workers at the base.
- Adults living or working on base (no children are present for extended periods).
- Recreational adult users of base open space and sporting facilities (i.e. golf course and sporting fields).
- Terrestrial flora and fauna.
- Aquatic organisms in surface water bodies (limited to drainage channel and dam in airport area).

The following potential off-base receptors have been identified:

- Livestock with access to water along drainage pathways (Gumly Gumly Wetlands and Marshalls Creek, Kyeamba Creek, and Gregadoo Creek).
- Consumers of livestock with access to PFAS impacted surface water or consumers of home-produced food using PFAS impacted surface water or soil (not currently known to occur).
- Terrestrial and aquatic fauna and flora, in particular within Gumly Gumly Wetlands and Murray Cod Hatcheries (aquatic).
- Consumers of certain fish and yabbies sourced from local waterways around the base.

- Groundwater users in surrounding properties and the Riverina Water County Council (RWCC) East Wagga Borefield.
- Consumers of crops irrigated by treated effluent (not currently known to occur). The HHERA (EnRisks, 2018) also identified that irrigation of land close to Kyeamba Creek could present an unacceptable risk to aquatic ecology in the creek.
- Recreational users of surface waters receiving run-off from the base.

Further details relating to potential receptors are included within the DSI (Jacobs, 2018a) and HHERA (EnRisks, 2018).

3.3.1 Groundwater use

A water use survey completed for properties surrounding the site and information collected during the DSI (Jacobs, 2018a) identified that mains water is supplied to the majority of properties in the Management Area for drinking and domestic supply.

RWCC supplies potable water throughout Wagga Wagga including Forest Hill and surrounding areas. Water is sourced from borefields (Lachlan formation) and a surface water intake from the Murrumbidgee River. The RWCC East Wagga Borefield is located approximately 7 km north-west of the base and surface water intake from the Murrumbidgee River is located at 91 Hammond Avenue, approximately 8 km north-west of the base.

Groundwater is used at the Murray Cod Hatcheries for supply of the aquaculture ponds. Six bores are present at the hatcheries, two screened in the Cowra formation and three in the Lachlan formation. Only one bore is currently used to supply water to the ponds. This bore is screened in the Lachlan formation from a depth of 39 to 45 mbgl.

Groundwater is used for irrigation and stock watering at several other properties in the area between the base and the Murrumbidgee River.

3.3.2 Summary of elevated risks to human health and the environment

The PMAP includes the following summary of elevated risks which were identified in the DSI and / or HHERA:

- High consumption of certain fish and yabbies sourced from local waterways around the base
- Direct toxicity to aquatic ecology at farm dams in the Gumly Gumly Wetland and in Marshalls Creek
- Effects on terrestrial or aquatic ecology due to bioaccumulation in higher order consumers at various off-base locations
- Potential future risks if residents at certain properties commence home consumption of food produced with PFAS impacted water or soil
- Potential risks if PFAS impacted groundwater is used for drinking water or home food production in the future
- Potential risks to groundwater users due to PFAS migration in the future
- Discharge of PFAS impacted sewage from the base at concentrations that would present an elevated risk if treated sewage is recycled for irrigation of land close to Kyeamba Creek (potential ecological risk) or irrigation of crops for home consumption (potential human health risk).

4. Data Quality Objectives

4.1 Data Quality Objectives process

This SAQP has been developed based on a set of Data Quality Objectives (DQO) in reference to the DQO presented in the OMP (Defence, 2019a), and based on guidance presented in the US Environmental Protection Agency (EPA, 2006), and ASC NEPM 2013 (Schedule B2). The DQO process comprises the following seven steps:

- Step 1: State the problem
- Step 2: Identify the Decision
- Step 3: Identify the Information Inputs
- Step 4: Define the Boundaries of the Study
- Step 5: Develop the Analytical Approach
- Step 6: Specify Performance or Acceptance Criteria
- Step 7: Develop the Plan for Obtaining the Data

The DQO are detailed in Table 4.

Table 4. Data Quality Objectives

Data Quality Step	Description
Step 1: State the Problem	▪ PFAS source zones in soil and perched groundwater at the base are contributing to PFAS discharges in surface water and sewer from the base. These discharges have led to risks to human health and the environment. ▪ Concerns regarding PFAS have been raised by community members living within the Monitoring Area. ▪ Actions will be implemented to reduce these discharges. Precautionary advice has been provided by NSW agencies to the community in order to limit exposures. ▪ Monitoring is needed to assess the effectiveness of these actions and to provide data for future risk management. ▪ The investigation will be resourced by suitably qualified and experienced field staff who have completed Jacobs internal training.
Step 2: Identify the Decision	The principal objectives of the ongoing monitoring plan are to: ▪ Further refine the understanding of the distribution and variability of PFAS in the environment. ▪ Monitor changes in response to management actions and due to other conditions. ▪ Monitor migration of PFAS impacts within groundwater and provide an early warning for water supply risks. ▪ Collect additional data to inform future management actions.
Step 3: Identify the Information Inputs	The information inputs are: ▪ Existing data relevant to PFAS in soil, waters and biota obtained through the DSI (Jacobs, 2018a), HHERA (EnRisks, 2018) and other environmental investigations (including the preliminary site investigation).

Data Quality Step	Description
	▪ Surface water and groundwater flow regimes identified in the DSI (Jacobs, 2018a) and further refined as part of the Stage 1 Groundwater Model; ▪ Location and types of human and environmental receptors as defined in the DSI (Jacobs, 2018a) and HHERA (EnRisks, 2018).
Step 4: Define the Boundaries of the Study	A Study Area was defined in the DSI. Based on outcomes from the HHERA, this has been further refined into a Monitoring Area for use in the SAQP. The Monitoring Area is described in Section 2.1.1 and shown in Figure 1, Appendix A. The Monitoring Area for the OMP includes: ▪ Surface water sampling will focus on discharges from the base to the Gumly Gumly Wetland and downstream along Marshalls Creek to the confluence of Marshalls Creek and the Murrumbidgee River. Surface water sampling is also proposed at Kyeamba Creek in order to confirm the DSI findings that this is not a significant pathway for PFAS transport from the base. ▪ Sampling of farm dams around the base, including the dams referred to as the Gregadoo Creek pathway, is not proposed. Overland flow to these dams and between the dams only occurs during extended periods of high rainfall, the PMAP management actions do not seek to reduce PFAS transport in these directions and sampling of the farm dams has already been undertaken as part of the DSI (Jacobs, 2018a) and HHERA (EnRisks, 2018). It is considered unlikely that additional data would result in changes to the proposed management actions. ▪ On-base sampling of groundwater will include wells screened in the Cowra Formation and the Lachlan Formation. The off-base sampling will focus on the Lachlan Formation as this is the target formation of water supply in the area. Sampling of groundwater in the underlying granite will only be undertaken at a location to the east of the base (MW 241) in order to further investigate the impacts at MW223 identified in the DSI (Jacobs, 2018a). ▪ An initial time period of two years with monitoring events once every six months was proposed in the OMP. The first monitoring event was completed in June, 2020. A review of the data collected and potential revisions to the OMP have been recommended to Defence.
Step 5: Develop the Analytical Approach	The purpose of this step is to define the parameters of interest, specify action levels and combine the outputs of the previous DQO steps to develop a series of options if certain trigger events occur. The key decision rules for the OMP are: ▪ Has the analytical data collected as part of the OMP met the Data Quality Indicators (DQI) as outlined in Table 5 and the Data Acceptance Criteria (DAC) outlined in Table 11? If yes, then the data can be used for decision making. If no, then an assessment of the need to collect additional data will be required. ▪ Does the data indicate a change to the risks defined in the DSI (Jacobs, 2018a) and HHERA (EnRisks, 2018)? If yes, then further risk assessment will need to be carried out. This may lead to a need to revise the PMAP. If no, then continue monitoring as per the OMP. ▪ Does the data conform with the CSM as outlined in the PMAP? If yes, then continue monitoring as per the OMP. If no, then further risk assessment will need to be carried out. This may lead to a need to revise the PMAP.

Data Quality Step	Description
	▪ Is the data meeting the DQOs as outlined in the OMP? If yes, then continue monitoring as per the OMP. If not, then a revision to the OMP should be undertaken. ▪ Trigger levels to assist in the above decision rules are detailed in.
Step 6: Specify Performance or Acceptance Criteria	▪ Investigation criteria set out in the DSI and HHERA will be adopted for use to determine if the OMP data collected indicates a change in the level of PFAS within the test media. These are described in further detail in Section 7. ▪ The potential for significant decision errors will be minimised by completing a robust QA/QC program in accordance with ASC NEPM (2013) and PFAS NEMP (HEPA, 2020) guideline requirements. ▪ Standard operating procedures will be closely followed in the field to ensure accurate and representative data acquisition. DQI and DAC will be applied to assess usability of data prior to making decisions, based on precision, accuracy, representativeness, comparability, completeness and sensitivity. ▪ The acceptable limit on decision error is 95% compliance with the applied DQI (refer to Table 5 and Section 6). If any of the DQI are not met, further assessment will be necessary to evaluate the significance of the non-conformance and implement corrective actions.
Step 7: Develop the Plan for Obtaining the Data	The plan for obtaining data has been developed in accordance with relevant guidelines through targeted monitoring of potential source-pathway-receptors. Optimisation of the data collection process will be achieved by: ▪ working closely with the analytical laboratories and sampling equipment suppliers to ensure that appropriate procedures and processes are developed and implemented prior to and during the fieldwork, to ensure that sample handling, and transport to and processing by the analytical laboratories is appropriate. ▪ conducting sampling according to Defence and Australian Standards for the type of sampling being conducted. These standards are as follows: - Department of Defence Contamination Management Manual (March 2018, Amended August2019), - Standards Australia (AS/NZ 5667.6-1998) Water Quality – Sampling. Part 6: Guidance on sampling of rivers and streams, - Standards Australia (AS/NZS5667.11–1998) Water Quality – Sampling, part 11: Guidance on sampling of groundwater. ▪ conducting sampling in accordance with the Jacobs internal PFAS Sample Collection Guidance. ▪ sampling conducted by suitably qualified and experienced field staff who have completed Jacobs internal training. ▪ basing the sampling upon a CSM developed using the information available at the implementation of the OMP. Updating the CSM as new data becomes available in the course of the implementation of the OMP, as required. ▪ progressive review of the data and modification of sampling programs to optimise the value of data generated.

Data Quality Step	Description
	▪ 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.

4.2 Assessment of Data Quality

Data quality will be assessed in accordance with the PARCCS parameters (Precision, Accuracy, Representation, Completeness, Comparability and Sensitivity) principles and indicators (refer to Table 5).

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, sensitivity, and accuracy of the analytical data.

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

An assessment of the Data Quality Indicators (DQI) relating to both field and laboratory procedures will be undertaken with appropriate documentation provided for each environmental element or media assessed. The DQI adopted for the OMP are summarised in Table 5 and acceptance criteria for the DQI's are presented in Section 6.

Table 5. Data Quality Indicators

Data quality indicator	Field	Laboratory method and results
Precision	▪ Compliance with Jacobs Work Instructions ▪ Investigation by suitably qualified and experienced personnel ▪ Collection of blind replicate and split samples	▪ Use of National Association of Testing Authorities, Australia (NATA) accredited laboratories ▪ Analysis of inter- and intra-laboratory duplicate samples (1 in 10 primary) ▪ Laboratory internal duplicate samples
Accuracy	▪ Compliance with Jacobs Work Instructions ▪ Investigation by suitably qualified and experienced personnel ▪ Collection of rinsate samples and trip blanks	▪ Analysis of method blanks, matrix spike recoveries, surrogate spikes recoveries, laboratory control spike recoveries ▪ Compliance with sample holding times
Representativeness	▪ Compliance with Jacobs Work Instructions	▪ Analysis of contaminants of potential concern
Comparability	▪ Compliance with Jacobs Work Instructions	▪ Use of NATA accredited laboratories ▪ Analysis of split sample (1 in 10 primary) ▪ Comparison of data against historic data where available

Data quality indicator	Field	Laboratory method and results
Completeness	▪ All critical locations sampled (spatially and temporally)	▪ All critical samples analysed ▪ Assessment of the impact any spatial gaps in samples collected
Sensitivity	▪ Personnel to ensure correct analytical methods are selected	▪ Analytical methods to achieve the stated limits of detection

5. Sampling Location Rationale and Methodology

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

Deviations from the OMP are presented in Section 0.

5.1 Monitoring schedule

The proposed monitoring schedules for fieldworks is presented in Table 6. The OMP (Defence, 2019a) proposes that monitoring at all locations is undertaken twice per year, once during the May to October period when rainfall is slightly higher and once during the remainder of the year.

Table 6. RAAF Base Wagga OMP Monitoring Schedule

Matrix	Location	Interval	Monitored Parameters
Surface Water	Surface water on and off-base	Twice annually: May – October November – April	Field: Water quality parameters[1] Lab: Standard PFAS Suite (see Appendix A)
Groundwater	Groundwater on and off-base	Twice annually: May – October November – April	Field: Physical parameters[1] Field: Water levels Lab: Standard PFAS Suite (see Appendix A)

Notes:
1. Water quality parameters include pH, electrical conductivity, dissolved oxygen, temperature and redox potential.

As stated in the OMP, where possible, mobilising to collect samples during or shortly after a significant rainfall event should be attempted for one of the sampling events each year. However, it is noted that this may be challenging. The amount of recent rain should be taken into account when interpreting results against the DQO's.

5.2 Access arrangements

There are several sampling locations that are not located within the RAAF Base Wagga area or are located in restricted areas and require notification to respective property owners prior to entry. These include:

- Groundwater wells MW310 and MW311 are located airside of the Wagga Wagga City Domestic Airport, on the eastern boundary of the base. Airside permission and escort will need to be arranged through Wagga Wagga City Council prior to sampling.
- Surface water location SW104 is the main stormwater pit on-base and requires the pit lid be lifted by the base Estate Maintenance and Operation Services (EMOS) contractor prior to sampling.
- Locations MW240, MW244 – MW250, MW253-MW257, SW206, SW212, SW218, SW228, SW234, SW236, SW240, SW261, SW262, SW286, SW288, SW289, SW294 and SW310 are on land managed by Wagga Wagga City Council. Notification of sampling prior to entry to the site is required. Some of these locations are publicly accessible, others will require further permissions including a road reserve permit, or escorts (eg within the Forest Hill sewage treatment plant and locations at South Tahara).
- Locations MW211, MW212, MW213, MW251, MW252 and SW309 are on land owned by RWCC. Notification of sampling prior to entry to the site is required.

- Groundwater wells MW200, MW204, MW208, MW209, MW214, MW231, MW233, MW235, MW238, MW239, MW241, MW242, MW260, MW312 and MW313 are located on private property. Notification and access will need to be arranged prior to entry to the respective properties.

5.3 Groundwater monitoring

5.3.1 Groundwater monitoring locations

The network of on-base and off-base groundwater monitoring wells included in the OMP (Defence, 2019a) are presented in Figure 3 and well construction details summarised in Table 7.

The rationale for the selection of these locations is presented in the OMP (Defence, 2019a) and broadly includes:

- **On-base locations –** Monitoring Cowra Formation (shallow aquifer) and Lachlan Formation (deep aquifer) to assess potential off-base migration from source areas.
- **Gumly Gumly Wetland –** Assess changes in PFAS concentrations in environmentally sensitive area.
- **Down-gradient of Gumly Gumly Wetland –** Assess changes in PFAS concentrations down-gradient of environmentally sensitive area in both Cowra and Lachlan Formations.
- **Off-Base to the north and north-west of base –** Assess PFAS concentrations in groundwater downgradient of base.
- **Drinking Water Supply bores to the north and north-west of base –** Assess PFAS concentrations in groundwater downgradient of base, close to the Murrumbidgee River.
- **Property to the east of the base –** Assess PFAS concentrations in groundwater residing in the Lachlan Formation and Wantabadgery Granite aquifers. It is understood that the wells at this location target a north-south orientated dyke at a point where the Kyeamba Creek drainage pathway from the base crosses the Sturt Highway.

Table 7. RAAF Base Wagga, Groundwater Network

On/Off-base	Area	Location ID (alternate name)	Aquifer	Easting	Northing	Top of Casing elevation (m AHD)	Screen interval (mbgl)	Sampling frequency	Total	LOR
On-base	Northwest of fire extinguisher concrete pad and former fire station (RMV0098)	MW302	Upper Lachlan	542358.332	6109470.448	209.61	35-62.8	Twice annually	2	Low-Level
		MW303	Cowra	542358.332	6109470.448	209.57	9-24	Twice annually		Low-Level
	Along base boundary	MW300	Upper Lachlan	542273.696	6110126.281	200.54	30-54.9	Twice annually	11	Low-Level
		MW301	Cowra	542281.239	6110125.846	200.71	8.5-17.5	Twice annually		Low-Level
		MW304	Upper Lachlan	541365.892	6108801.043	211.77	29-53	Twice annually		Low-Level
		MW305	Cowra	541363.165	6108795.486	211.77	14-23	Twice annually		Low-Level
		MW306	Upper Lachlan	542796.358	6107013.686	233.06	47-59	Twice annually		Low-Level
		MW307	Cowra	542791.094	6107014.46	232.9	8.5-29.5	Twice annually		Low-Level
		MW308	Upper Lachlan	543139.618	6109380.459	213.9	33-57	Twice annually		Low-Level
		MW309	Cowra	543133.545	6109377.744	213.83	12-21	Twice annually		Low-Level
		MW310	Upper Lachlan	543561.014	6108970.468	210.27	39-57	Twice annually		Low-Level
		MW311	Cowra	543562.725	6108981.359	210.65	8-20	Twice annually		Low-Level
		MW243 (OMP-MW4)	Upper Lachlan	542976.97	6110069.23	211.48	30.5-52.5	Twice annually		Low-Level
Off-base	Gumly Gumly Wetland	MW200 (GW200)	Upper Lachlan	*	*	183.14	39-45	Twice annually	5	Low-Level
		MW204 (GW204)	Upper Lachlan	*	*	184.12	34-43	Twice annually		Low-Level
		MW233	Cowra	*	*	-	12.5-15.5	Twice annually		Low-Level

On/Off-base	Area	Location ID (alternate name)	Aquifer	Easting	Northing	Top of Casing elevation (m AHD)	Screen interval (mbgl)	Sampling frequency	Total	LOR
		(GW064412)								
		MW312	Upper Lachlan	*	*	182.97	21-59	Twice annually		Low-Level
		MW313	Cowra	541036.419	6111048.697	182.99	7-11	Twice annually		Low-Level
	Down-gradient of Gumly Gumly Wetland	MW238 (OMP-MW3)	Upper Lachlan	540680.52	6112223.6	182.88	33-68	Twice annually	28	Low-Level
		MW239 (OMP-MW7)	Cowra	540679.791	6112218.397	182.8	11-20	Twice annually		Low-Level
		MW240 (OMP-MW2)	Cowra	538087.96	6112263.43	182.54	12-26	Twice annually		Low-Level
		MW244 (OMP-MW1A)	Upper Lachlan	536996.47	6113060.76	180.37	28-52	Twice annually		Low-Level
		MW245 (OMP-MW1)	Cowra	536996.47	6113060.76	180.84	12-20	Twice annually		Low-Level
		MW247	Upper Lachlan	536050.951	6112506.299	182.311	26-33	Twice annually		Low-Level
		MW248	Cowra	536049.397	6112509.06	182.301	9.5-22.5	Twice annually		Low-Level
		MW249	Upper Lachlan	536082.812	6113454.968	180.938	41-59	Twice annually		Low-Level
		MW250	Cowra	536087.341	6113452.451	180.967	13-23	Twice annually		Low-Level
		MW251	Cowra	536569.189	6113765.545	179.462	11-22.4	Twice annually		Low-Level
		MW252	Upper Lachlan	536569.976	6113769.891	179.645	30-60	Twice annually		Low-Level
		MW253	Lachlan	537469.028	6112456.611	181.969	41-47	Twice annually		Low-Level
		MW254	Cowra	537469.851	6112462.06	182.04	13-23	Twice annually		Low-Level
		MW255	Upper Lachlan	539219.759	6112296.567	182.003	42-52	Twice annually		Low-Level

On/Off-base	Area	Location ID (alternate name)	Aquifer	Easting	Northing	Top of Casing elevation (m AHD)	Screen interval (mbgl)	Sampling frequency	Total	LOR
		MW256	Cowra	539217.619	6112291.105	182.069	11-23	Twice annually		Low-Level
		MW257	Cowra	538861.387	6111683.414	182.252	11-16	Twice annually		Low-Level
		MW258	Upper Lachlan	535907.627	6112894.103	181.38	19.5-25.5	Twice annually		Low-Level
		MW259	Cowra	535902.153	6112900.437	181.48	10-16	Twice annually		Low-Level
		MW261	Lower Lachlan	535900.04	6112904.9	181.485	44-59	Twice annually		Low-Level
		MW262	Cowra	535791.252	6113129.433	181.569	12.5-22.5	Twice annually		Low-Level
		MW263	Upper Lachlan	535792.729	6113129.077	181.547	25-30	Twice annually		Low-Level
		MW264	Lower Lachlan	535794.656	6113128.758	181.591	41.3-47.3	Twice annually		Low-Level
		MW265	Cowra	536521.624	6112658.479	181.946	10-20.5	Twice annually		Low-Level
		MW266	Upper Lachlan	536523.172	6112658.051	181.934	29.5-32.5	Twice annually		Low-Level
		MW267	Lower Lachlan	536524.926	6112657.871	181.939	39.5-49.5	Twice annually		Low-Level
		MW268	Cowra	537236.468	6112531.913	181.336	12.7-21.7	Twice annually		Low-Level
		MW269	Upper Lachlan	537239.012	6112531.736	181.307	29.5-32.5	Twice annually		Low-Level
		MW270	Lower Lachlan	537242.141	6112531.016	181.324	39-48	Twice annually		Low-Level
	Off-base to the north and north-west of base	MW214 (Bore 5, GW047279)	Upper Lachlan	542678.689	6111403.829	186.04	43.6-52.7	Twice annually	4	Low-Level
		MW231 (GW028840)	Upper Lachlan	*	*	-	46.9-56.3	Twice annually		Low-Level
		MW235 (GW042804)	Upper Lachlan	*	*	-	14.3-17.7	Twice annually		Low-Level
		MW246	Upper Lachlan	541737.871	6110580.212	189.469	22-48	Twice annually		Low-Level

On/Off-base	Area	Location ID (alternate name)	Aquifer	Easting	Northing	Top of Casing elevation (m AHD)	Screen interval (mbgl)	Sampling frequency	Total	LOR
	Drinking Water Supply bores to the north and north-west of base	MW209 (GW209)	-	*	*	-	42.3-54.5	Twice annually	5	Low-Level
		MW211 (EWB1)	Upper Lachlan	*	*	181.71	48.37-70.5	Twice annually		Low-Level
		MW212 (EWB2)	Upper Lachlan	*	*	181.22	48.15-59.7	Twice annually		Low-Level
		MW213 (EWB3)	Upper Lachlan	*	*	180.53	48.1-68.8	Twice annually		Low-Level
		MW260 (GW039499)	-	*	*	-	-	Twice annually		Low-Level
	Property to the east of the base	MW241 (OMP-MW5)	Granite	544120.21	6109532.09	200.07	58.5-73.5	Twice annually	2	Low-Level
		MW242 (OMP-MW6)	Upper Lachlan	544122.45	6109540.11	199.89	37-61	Twice annually		Low-Level

Notes:

Alternate name, eastings, northings, top of casing elevation and screen interval are sourced from Defence ESdat database.

*Coordinates are not displayed for privacy reasons.

5.3.2 Groundwater sampling methodology

Groundwater monitoring will be undertaken as detailed in Table 8.

Table 8. Groundwater Monitoring Wells – Sampling Method

Activity	Details
Groundwater gauging	The depth to groundwater will be measured using either an interface probe or a water level meter in each monitoring well prior to collection of groundwater samples. All wells will be measured against a specified mark at the top of the well casing.
Groundwater sample collection	Groundwater samples will be collected from monitoring wells using no-purge methodology with HydraSleeves™. Hydrasleeves which will be installed within the screened interval (approximate mid-point) of the wells (available well construction details, including screen intervals, are shown in Table 7). Care should be taken to avoid placing the base of the HydraSleeves™ at the base of the monitoring well, where a build-up of sediment may be present. The installation depth of the HydraSleeves™ is to be recorded (generally as HydraSleeve™ collar depth in mbTOC). Subsequent monitoring events will attempt to target the same horizon for deployment of HydraSleeves™. HydraSleeves™ are to be installed / deployed in monitoring wells for a minimum of 24 hours prior to sampling, to allow re-stabilisation of the well following disturbance. Following sampling, field parameters are recorded ex-situ, from any excess water available in the Hydrasleeve™. Once sampling is completed, a new HydraSleeve™ will be deployed at the screened interval depth at each location in preparation for the next scheduled sampling round, where practicable. Hydrasleeve™ sampling will be completed in accordance with the manufacturer's guidance.
Sample collection from fully encased wells	Some off-base wells are fully encased and do not allow direct access to deploy a HydraSleeve® or bailer. These wells include MW200, MW209, MW211, MW212, MW213, MW214, MW231, MW233, MW235 and MW260. Water from these wells is extracted by mechanically powered pumps and sample collection is completed from a designated tap or outlet. Prior to sampling, the pump is allowed to run for at least one minute to purge stagnant water within the well and associated piping. Previous field notes (from ESdat) will be reviewed to allow for purging of similar timeframes to allow for consistency of results. Groundwater field parameters will also be recorded with a water quality meter following sample collection.
Field Parameters	Refer to Section 5.6.1.
Sample identification, preservation and holding times	Each sample will be labelled with the sample location, date, project identification number and sampler's initials. Sample labelling and naming will be in accordance with Annex L of the Defence Contamination Management Manual (DCMM) (refer to 5.6.2 and 5.6.4). Samples will be collected directly in into appropriately preserved laboratory supplied bottles (Teflon-free) and packed in chilled containers for delivery to the laboratory under Chain Of Custody (COC) documentation (as shown in Section 5.6.3).

Activity	Details
	Sample containers, preservation procedures, sample storage requirements and holding times will be undertaken in accordance with the requirements set out in Australian Standard AS/NZS 5567.1:1998 and AS 4482.1.
QA/QC samples to be collected	Groundwater QC samples will be collected at the following frequencies: ▪ Field duplicate (intra-laboratory) samples at 1 per 10 water samples or 1 per batch if the batch is less than 10 samples. ▪ Field triplicate (inter-laboratory) samples at 1 per 10 water samples should be sent to a secondary laboratory. ▪ Rinsate blank sample at 1 per day [collected off re-used sampling equipment (e.g. interface probe)]. ▪ Trip blank samples of 1 per shipment to be included in the chilled sample containers upon transport to the laboratory. All QC samples will be tested for a full PFAS analytical suite (see Appendix A). Jacobs 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.
Sample analysis	All primary and QC samples will be submitted for analysis using the standard Defence PFAS analytical suite (see Appendix B). Low level LORs will be ordered for all groundwater samples.
Retrieval of data from loggers	Data loggers for monitoring of water levels and a barologger for measuring barometric pressure changes to allow for relative compensation of the water levels, have been installed in the following 13 groundwater wells: **5th May 2020** On-Base Lachlan Formation wells: ▪ MW243 (northern boundary of base) ▪ MW304 (western boundary of base) Off-Base Lachlan Formation wells: ▪ MW215 (adjacent to base irrigation bore MW214 to the north of the base) ▪ MW242 (between base and Kyeambra Creek; possible flow in this direction) ▪ MW312 (hydraulically down-gradient of base and located on margin of wetland) ▪ MW238 (between base and Murrumbidgee River; down-gradient of base and wetland) ▪ MW244 (close to Murrumbidgee River and town supply bores; down-gradient of base and wetland) Off-Base Cowra Formation wells: ▪ MW239 (paired with MW238) ▪ MW245 (paired with MW244) Dataloggers are also to be installed in the newly constructed East Wagga groundwater wells (MW262 to MW270). **19th March 2021** Off-Base Lachlan Formation wells:

Activity	Details
	▪ MW247 (next to Marshalls Creek; down-gradient of base and wetland) ▪ MW249 (sentinel well for RWCC1 East Wagga borefield; down-gradient of base and wetland) Off-Base Cowra Formation wells: ▪ MW248 (paired with MW247) ▪ MW250 (paired with MW249) Data loggers will be left in the wells as specified in the OMP and Well Installation Report (Jacobs, 2020). Data logger data will be downloaded from each of the respective wells during groundwater monitoring events. The data will be used to gain further hydrogeological understanding of the base and to inform future management actions including the potential refinement of the RAAF Base Wagga groundwater model.
Decontamination	Used HydraSleeves® will be replaced with a new HydraSleeve® after sample collection at each location, thus removing the need for decontamination. All re-usable sampling equipment (such as the interface probe) will be thoroughly washed using 'PFAS free' and phosphate-free detergent (Liquinox), then double rinsed with de-ionised water before the sample collection. Clean, disposable nitrile gloves will be worn and replaced between each sample.
Laboratory Accreditation	All groundwater analysis will be undertaken by the following NATA-accredited laboratories: ▪ Primary analysis will be undertaken by ALS Global Laboratories. ▪ Secondary analysis will be undertaken by Eurofins.

5.4 Surface water and sediment monitoring

5.4.1 Surface water monitoring locations

The locations to be monitored on a twice-annual basis are provided in Table 9 and are presented on Figure 4, Appendix A.

The rationale for the selection of these locations is presented in the OMP and broadly includes:

- **Drains discharging from the base –** To monitor the concentration of PFAS in stormwater discharged from the Base.
- **Drain parallel to Forest Hill Rural Fire Service –** To evaluate whether the fire station is contributing to PFAS discharging ultimately into the Gumly Gumly Wetland.
- **Marshalls Creek downstream of Gumly Gumly Wetland –** Provide spatial coverage of PFAS concentrations in the Marshalls Creek drainage pathway.
- **Murrumbidgee River –** Quantify PFAS concentrations within the river; SW309 is a sentinel monitoring location for the drinking water supply.
- **Kyeamba Creek –** Provide spatial coverage of PFAS concentrations in this drainage pathway.
- **Forest Hill Sewage Treatment Plant –** To monitor changes in PFAS concentrations in treated sewage effluent originating from the sewage treatment plant.

Table 9. Surface Water Sampling Locations

On/Off-Base	Area	Location ID	Easting	Northing	Sampling Frequency	Total	LOR
On-base	Drains discharging from the base	SW104	542253.592	6110127.89	Twice annually	2	Standard
		SW206	*	*	Twice annually		Standard
	Drain parallel to Forest Hill Rural Fire Service	SW218	541664.984	6110523.099	Twice annually	1	Standard
Off-base	Marshalls Creek downstream of Gumly Gumly Wetland	SW234	536164.531	6112335.106	Twice annually	5	Standard
		SW262	534968.415	6113905.718	Twice annually		Standard
		SW294	535316.743	6113380.916	Twice annually		Standard
		SW310	538809.34	6111596.73	Twice annually		Standard
		SW311	535879.21	6112876.932	Twice annually		Standard
	Murrumbidgee River	SW212	539582.675	6114411.441	Twice annually	4	Low Level
		SW261	534770.431	6114079.373	Twice annually		Low Level
		SW286	543635.323	6114263.22	Twice annually		Low Level
		SW309	535431.22	6113739.79	Twice annually		Low Level
	Kyeamba Creek	SW236	*	*	Twice annually	2	Standard
		SW240	*	*	Twice annually		Standard
	Forest Hill Sewage Treatment Plant	SW228	543266.047	6112271.186	Twice annually	3	Standard
		SW288	542934.308	6111998.945	Twice annually		Standard
		SW289	543071.112	6112163.763	Twice annually		Standard

Note:
Eastings and northings are sourced from Defence Esdat database. The rationale for each sampling location is presented in the OMP.
*Coordinates are not displayed for privacy reasons.

5.4.2 Surface water sampling methodology

The methodology for the surface water monitoring is presented in Table 10.

Table 10. Surface Water Monitoring Locations – Sampling Method

Item	Description
Surface water sample collection methodology	Where possible, surface water samples will be collected directly into laboratory supplied sample containers using a 'Grab' (manual) sample method via a long-handled sampling device. The sample container is secured to the end of the sampling device and is then lowered into the water, oriented with the capped opening facing downwards to avoid the collection of surface films. Where depth permits, the sample container should be positioned at least 20 cm below the surface water level and above the sediment bed before reorienting the sample container so that the capped opening is facing upwards, allowing it to fill.

Item	Description
	This approach is consistent with the Australian Water Quality Guidelines, which advises to 'immerse a sample bottle by hand to just below the surface (typically 0.25 to 0.50 m depth) and hold the sampler downstream of where the sample is to be collected'. Description of each sampling location will be recorded (refer to Section 5.6.1).
Field records	Refer to Section 5.6.1.
Sample identification, preservation and holding times.	Each sample will be labelled with the sample location, date, project identification number and sampler's initials. Sample labelling and naming will be in accordance with Annex L of the DCMM (Refer to Sections 5.6.2 and 5.6.4). Samples will be contained in appropriately preserved laboratory supplied bottles (Teflon-free) and packed in chilled containers for delivery to the laboratory under COC documentation. Sample containers, preservation procedures, sample storage requirements and holding times will comply with the requirements set out in "Australian Standard AS/NZS 5567.1:1998 and AS 4482.1".
QA/QC Samples to be Collected	Surface water QC samples will be collected at the following frequencies: ▪ Field duplicate (intra-laboratory) samples at 1 per 10 water samples or 1 per batch if the batch is less than 10 samples. ▪ Field triplicate (inter-laboratory) samples at 1 per 10 water samples should be sent to a secondary laboratory. ▪ Rinsate blank sample at 1 per day (collected off re-used sampling equipment). ▪ Trip blank samples of 1 per shipment to be included in the chilled sample containers upon transport to the laboratory. All QC samples will be tested for a standard PFAS analytical suite (see Appendix A). Jacobs 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.
Decontamination	All re-usable sampling equipment (such as the long-handled sampling device) will be thoroughly washed using phosphate-free detergent (Liquinox), then double rinsed with de-ionised water before the sample collection.
Sample Analysis	All surface water samples will be analysed for the full PFAS analytical suite (see Appendix A). The laboratory limit of reporting (LOR) for surface water, PFAS – Full Suite (28 Analytes), is 0.01-0.1 µg/L using standard LORs. Low level detection limits can reduce the LOR down to between 0.02 and 0.002 µg/L. Low level LOR will be ordered for all surface water samples collected from the Murrumbidgee River. Samples from the remaining locations will be analysed using the standard LORs.
Laboratory Accreditation	All surface water analysis will be undertaken by the following NATA-accredited laboratories: ▪ Primary analysis will be undertaken by ALS Global Laboratories. ▪ Secondary analysis will be undertaken by Eurofins.

5.5 Validation of analytical results

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

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

The QA/QC evaluation to be undertaken is discussed in Section 6.

5.6 Field documentation

5.6.1 Field notes

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

- Weather conditions, and visual or olfactory conditions at the location.
- Location coordinates and means of access, and any changes from previous access to a specific location.
- Groundwater samples – the depth of the HydraSleeve® installation, observed characteristics of the sample (e.g. colour, turbidity, presence/absence and nature of odours, presence/absence of slicks or sheens) and measured field water quality parameters potential of hydrogen (pH), electrical conductivity (EC), dissolved oxygen (DO), oxidation/reduction potential (ORP) and temperature will be recorded. Condition of monitoring wells and gauging details will also be recorded.
- Surface water samples – the observed characteristics of the sample (e.g. colour, turbidity, presence/absence and nature of odours, presence/absence of slicks or sheens) and field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded. Additionally, a description of each surface water sampling location will be recorded, such as indicating the waterbody type (lake, stream, etc.), presence/absence of water flow, and waterbody width.
- The quality control (e.g. duplicate and inter-laboratory duplicate) sample details be recorded.
- All field instruments (e.g. water quality meter) will be calibrated prior to field events and as required during monitoring to optimise the accuracy of the measurements taken. All equipment calibration certificates will be retained within project files.

5.6.2 Sample labels

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

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

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

5.6.3 Chain of Custody forms

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

The COC form will include the following information:

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

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

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

5.6.4 Sample nomenclature

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

PPPP_XX000_ZZZ_YYMMDD

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

e.g. 0382_MW001_191015

Location types and codes are prescribed by the Defence Contamination Management Manual, Annex L

Data Management (Defence, June 2021) and the base's investigation history.

Location types relevant to this SAQP include:

- MW = monitoring well
- SW = surface water

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

- Blind duplicate (intra-laboratory duplicate): PPPP_QC1XX_YYMMDD
- Split duplicate (inter-laboratory duplicate): PPPP_QC2XX_YYMMDD

- Rinsate blank: PPPP_QC3XX_YYMMDD.
- Trip blank: PPPP_QC5XX_YYMMDD.

5.6.5 Defence Esdat requirements

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

All field and laboratory data collected by Jacobs will be uploaded, stored and managed in Defence's Environmental Data Management System (EDMS (ESdat)) in accordance with Section 6 of Annex L to the Defence Contamination Management Manual. Jacobs 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.

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

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

5.7 Waste management

Due to the proposed "no purge" sampling methodology adopted for the majority of the groundwater monitoring locations and the grab samples from the designated surface water sampling locations, it is not anticipated that significant volumes of liquid waste would be generated that would require onsite management and disposal. Any liquid wastes generated from the OMP activities will be temporarily stored on-site (in an agreed location as approved by base management) within either a wastewater drum or wastewater container and disposed off-site to a licensed facility.

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

6. Quality assurance and quality control

QA/QC procedures have been developed based on the guidance in Schedules B2 and B3 of the ASC NEPM as well as PFAS NEMP Version 2.0 (HEPA, 2020).

6.1 Field quality control

Field quality control will comprise:

- Ensuring all sampling is undertaken by suitably qualified and experienced Jacobs personnel.
- Adherence to the relevant Jacobs Work Instructions including record keeping.
- Use of laboratory supplied sample containers.
- Preservation of samples in ice chests and transport to laboratories under chain of custody documentation.
- Submission and extract of samples within the recommended holding times.
- Appropriate decontamination of any sampling equipment that can come in contact with multiple samples between locations.
- Collection of quality control samples.
- Calibration of all field measuring equipment such as water quality meters and retaining of calibration records.

Further detail regarding specific procedures is described in Sections 5.6.1 to 5.6.5.

6.1.1 General Procedures

Sampling will be carried out in accordance with the Jacobs' Standard Operating Procedure for PFAS sampling (ANZIE_SOP_N_003). This procedure has been developed in accordance with the PFAS NEMP Version 2.0 (HEPA, 2020) and the WA DER 2017 guidelines.

6.1.2 Decontamination

Reusable equipment will be avoided. However, where it can't be avoided, decontamination prior to sampling and between sampling will occur using a triple wash system. This involves washing in PFAS free detergent and tap water, rinsing in tap water, then rinsing in laboratory supplied deionised water.

6.1.3 Sample containers and sample labelling

Samples will be placed in appropriate laboratory-supplied sample containers. Sample containers will be polypropylene or High Density Polyethylene (HDPE). No polytetrafluoroethylene (PTFE) materials including Teflon lined lids will be used for PFAS samples. All samples (including QC samples) will be labelled to include the in accordance with Sections 5.6.2 to 5.6.4.

6.1.4 Field quality control samples

Field QC samples will comprise:

- **Duplicate samples:** Duplicate samples will be collected at a rate of one for every 10 primary samples (or more frequent) for each sample matrix. Both the primary sample and the duplicate sample will be sent to the primary laboratory (ALS), however the duplicate sample will be blind coded.
- **Triplicate samples:** Triplicate samples will be collected at a rate of one for every 10 primary samples. The triplicate sample will be sent to an independent secondary laboratory (Eurofins).

- **Trip Blanks:** Trip blanks will be collected at a rate of one per laboratory batch of samples. Each trip blank will be prepared by the primary laboratory and will be stored and transported with the other samples throughout the sampling event.
- **Rinsate Samples:** Rinsate samples are proposed for collection at a rate of one per day when sampling equipment which can come in to contact with multiple samples is used. This is not anticipated based on the proposed methodology in this SAQP. However, where needed, rinsate blanks will be collected by running deionized water supplied by the laboratory over the equipment and directly into a laboratory supplied bottle suitable for PFAS analysis. The laboratory shall provide appropriate certification that the rinsate water supplied is free from PFAS. If this certification is not available then Jacobs will test one sample of supplied rinsate water for standard PFAS analysis for every 10 rinsate samples.

Acceptance criteria for the quality control sample analysis results are presented in Section 6.3.

6.2 Laboratory quality control

All analysis will be performed by laboratories accredited by NATA for the analysis requested by Jacobs. The laboratory internal quality control processes will include the analysis of:

- Laboratory duplicate samples
- Method blanks
- Matrix spike recoveries
- Surrogate spikes recoveries
- Laboratory control spike recoveries

6.3 Data validation

The primary objective of the data validation process will be to ensure that the data reported can be used to achieve the investigation objectives.

The data validation process will occur at several stages:

- All data collected in the field will be input to the relevant electronic databases upon return to the office. An initial check of these data will be performed by another member of the project team.
- The laboratory will supply a SRN including whether the security seal was intact, internal temperature of the cooler box and / or whether an attempt to cool was apparent, a list of all samples received and the intended analysis and confirmation of any onward dispatch of split samples to the secondary laboratory. The SRN will be reviewed by Jacobs and any errors or issues will be actioned.
- Upon receipt of laboratory analysis data, Jacobs will conduct a QA check of the data including a review of the laboratory QC report, assessment of field duplicate and split samples and assessment of rinsate and trip blank results. Jacobs will also check that the data has been appropriately uploaded to the ESdat database for the Project and the analysis data is correctly linked to the field data at each location.

Quality control parameters will be assessed against the Data Acceptance Criteria presented in Table 11. Should data be found to fall outside the data acceptance criteria, an investigation will be performed to determine if the data is acceptable or if corrective actions need to be instigated.

Table 11. Data acceptance criteria

Element	Data quality indicator	Objectives	Acceptance Criteria
Field QA/QC			
Field duplicate and split samples	▪ Precision ▪ Comparability	▪ To ensure the primary data is reliable and fit for purpose. ▪ The assessment of blind replicate and split samples is undertaken by calculating the Relative Percent Difference (RPD) of the replicate or split concentration compared with the original sample concentration. The RPD is defined as: $RPD = 100 \times \frac{[x1 - x2]}{Average}$ Where: $x1$and $x2$ are the concentration of the original and replicate or split samples.	▪ Analysed for the same chemicals as the primary sample. ▪ a RPD ≤ 30% will be considered acceptable. Higher RPDs may be acceptable where concentrations are less than 10 times the laboratory LOR. This is in line with the general guidance provided in Queensland Government (2018). ▪ Particulates or suspended solids in the water samples can affect analytical results. Field observations and turbidity measurements will also be considered in evaluating the data.
Trip blanks and rinsate samples	▪ Precision ▪ Accuracy ▪ Comparability	▪ Ensure that cross-contamination has not occurred from sampling equipment, sampling procedure, or during storage and transport of samples. ▪ Each trip blank and rinsate sample is analysed as per the original samples.	▪ Each trip blank and rinsate sample is analysed for the full PFAS analytical suite (see Appendix A). ▪ Analytical result < LOR.
Review of Analytical method	▪ Comparability ▪ Sensitivity	▪ The analytical methods and limits of recovery must be confirmed to be appropriate for media and adopted assessment criteria	▪ Laboratory LOR ≤ Site assessment criteria
Laboratory QA/QC			
Sample Holding Times	▪ Precision ▪ Accuracy	▪ Period between sample collection, extraction and analysis as reported by the laboratory.	▪ For water samples, the samples are to be extracted within 14 days of sample collection and analysed within 28 days of extraction
Laboratory duplicates	▪ Precision	▪ To ensure precision of the analysis method and replicability of analysis due to potential sample heterogeneity.	▪ As specified in the laboratory QC report.

Element	Data quality indicator	Objectives	Acceptance Criteria
		▪ Assessment as per blind replicates and split samples.	
Matrix spike recoveries	▪ Accuracy	▪ To assess the effect of the matrix on the accuracy of the analytical method used. ▪ Assessment is undertaken by determining the percent recovery of the known spike or addition to the sample. $\% Recovery = 100 \times \frac{C - A}{B}$ Where: A = Concentration of analyte determined in the original sample B = Added concentration C = Calculated concentration	▪ As specified in the laboratory QC report.
Method blanks	▪ Accuracy	▪ To determine background contamination or interferences in the analytical process.	▪ Analytical result < LOR.
Note: LOR = Laboratory Level of Reporting (LOR) or the minimum detection limit for a particular analyte.			

7. Assessment criteria

7.1 Groundwater and Surface Water

The assessment levels adopted for groundwater and surface water in this SAQP are based upon the PFAS screening criteria specified in the OMP (Defence, 2019a), which were adopted based on the guidance in the PFAS NEMP (HEPA, 2020). The adopted assessment criteria for groundwater and surface water are detailed in Table 12. Screening levels will be reviewed and updated (if deemed necessary) as part of the OMP review process.

In relation to the ecological assessment criteria, the OMP noted that should data collected as part of the OMP indicate a potential risk for increased uptake of PFAS in biota beyond what was identified as part of the HHERA then additional biota sampling may be recommended.

Table 12. PFAS Criteria for Groundwater and Surface Water

Exposure Scenario	Adopted Assessment Criteria (µg/L)		Guidance
	PFHxS / PFOS	PFOA	
Human Health - Drinking Water Quality Guideline[1]	0.07[2]	0.56	HEPA 2020
Human Health - Surface Water Recreational	2[2]	10	HEPA 2020
Ecological (95% species protection)	0.13[3]	220	HEPA 2020

Notes:

1. Drinking Water screening guidelines have been adopted for screening purposes for Industrial Water use, Stock Water use and Agriculture/Parks/Gardens Water use.

2. Combined PFOS and PFHxS.

3. PFOS only.

In November 2024, the National Health and Medical Research Centre (NHMRC, 2024) released draft health based drinking water guideline values for public consultation. Defence is considering how the draft guidelines, if adopted, may affect its PFAS Investigation and Management Program, and communities surrounding the Defence Estate. Until the revised PFAS guideline values are finalised and published, the current guideline values remain in effect.

The draft drinking water guideline values (DWGV) for PFAS (Table 13) have been considered in relation to the sampling results at RAAF Base Wagga. Given that groundwater and surface water in the area is used by various parties for drinking water supply, it is proposed that data is collected from relevant locations to enable comparison to the DWGV.

Table 13. Draft NHMRC Drinking Water Guideline Values for PFAS

PFAS Component	Draft NHMRC Drinking Water Guideline Values (µg/L)
PFOA – Perfluorooctanoic acid	0.2 µg/L
PFOS – Perfluorooctane sulfonic acid	0.004 µg/L
PFHxS – Perfluorohexane sulfonic acid	0.03 µg/L
PFBS – Perfluorobutane sulfonic acid	1 µg/L

A comparison of the draft NHMRC DWGV to the standard and low level LOR's (refer to Appendix B), demonstrates the standard LOR is satisfactory for the current guideline values and the majority of the draft DWGV, however assessment of PFOS against the draft DWGV requires use of the low level detection LOR's.

An assessment (provided in Appendix C) was undertaken of the historical results to determine the locations that PFOS concentrations are consistently below the standard LOR (0.01 µg/L) and would require use of low level LOR to enable consideration of the NHMRC draft DWGV. In addition, locations that are consistently close to the standard LOR (≤ 0.03 µg/L) were also included, as a slight variation in concentration could return a <LOR result, that could not be compared to the draft DWGV. Locations where PFOS concentrations have consistently exceeded 0.03 µg/L, are considered acceptable to continue using the standard LOR.

For groundwater monitoring wells, the purpose of the wells was also considered. While many of the monitoring locations are not in drinking water supply bores, the locations are either sentinel wells or important for understanding the spatial extent of PFAS in groundwater within the Cowra or Lachlan formations. Therefore comparison to the DWGV is considered important.

In total, there were six groundwater monitoring locations where PFOS concentrations have historically exceeded 0.03 µg/L of a total of 57 locations. In order to reduce the risk of error, low level analysis will be ordered for all samples.

For surface water samples, low level analysis is proposed for the locations in the Murrumbidgee River only as Riverina Water County Council abstract surface water from the river for drinking water supplies. The assessment presented in Appendix C identified several other locations where PFOS concentrations have been below 0.03 µg/L. However, comparison to the draft Drinking Water Guideline for PFOS is not considered necessary at these locations.

7.2 Trigger levels & responses

Initial trigger levels and responses were defined in the OMP and are set out in Table 14 below. These will be reviewed with each review of the OMP.

Table 14. OMP trigger levels and responses

Trigger	Response
First time detect of PFAS above laboratory LOR in surface water or groundwater	▪ Request the analytical laboratory to reanalyse the sample to verify detection ▪ If initial sample verified by laboratory, resample location within one month and verify detection ▪ If detection verified in second sample, review CSM and potential risks to human health and environment ▪ Notify NSW EPA and other relevant agencies ▪ Consider increasing the monitoring frequency at the location ▪ Implement additional investigations or management actions as required ▪ For PFAS detections in groundwater downgradient of the estimated Gumly Gumly plume, consider refinements to the groundwater model
First time exceedance of the drinking water guideline values in groundwater or the recreational water guideline values in surface water	▪ Request the analytical laboratory to reanalyse the sample to verify detection ▪ If initial sample verified by laboratory, resample location within one month and verify detection ▪ Calculate rolling average over a three year period for sample results from the same location and compare with the appropriate guideline value ▪ If rolling average exceeds appropriate guideline value, review CSM and potential risks to human health and environment ▪ Notify NSW EPA and other relevant agencies ▪ Consider increasing the monitoring frequency at the location ▪ Implement additional investigations or management actions as required

Trigger	Response
Increasing PFAS trends	▪ Further assessment of the data to determine if additional management actions are required. ▪ If increasing PFAS levels in surface water samples from Marshalls Creek or Kyeamba Creek are identified then this may indicate the potential for higher PFAS uptake in aquatic biota in Murrumbidgee River. Aquatic biota sampling and a human health risk assessment may be required.
Decreasing PFAS trends	▪ Review monitoring frequency and / or need for ongoing monitoring at this location as part of annual OMP review.

8. Deviations from the OMP

Deviations from the original OMP (Defence, 2019a) which have occurred are summarised in Table 15.

Table 15. Deviations from the OMP

No.	Description	Rationale
1	Property access for groundwater well MW208 (OTH206 in OMP) has not been granted.	Groundwater well MW208 was included in the OMP, however, access has since not been provided and therefore, this location is not included in the SAQP.
2	New monitoring well (MW239) installed for the OMP on 25 November 2019.	A new monitoring well (MW239) was installed for the OMP to assess groundwater within the Cowra formation, noting MW238 is adjacent and within the Lachlan Formation. MW238 was previously included within the OMP but was originally referred to as OMP-MW3. Monitoring well MW239 has been included in this SAQP.
3	New monitoring well installed (MW245) for the OMP on 27 February 2020.	A new monitoring well (MW245) was installed for the OMP to assess groundwater within the Cowra formation, noting MW244 is adjacent and within the Lachlan Formation. Monitoring well MW245 has been included in this SAQP.
4	New monitoring wells (MW246 to MW257) installed for the OMP between 20 May and 18 September 2020, not included in the original OMP.	New monitoring wells MW246 to MW257 were installed for the OMP between the Gumly Gumly wetlands and Marshalls Creek to monitor PFAS concentrations in Cowra and Lachlan formations. Monitoring wells MW246 to MW257 have been included in this SAQP.
6	New monitoring wells (MW258 and MW259) installed between 4 July and 5 July 2023.	New monitoring wells MW258 and MW259 were installed for the OMP to assess groundwater conditions in the Cowra and Lachlan formations, adjacent to Marshalls Creek. Monitoring wells MW258 and MW259 have been included in this SAQP.
7	New monitoring well (MW261) installed between 22 and 25 January 2024, not included in the original OMP.	New monitoring well MW261 was installed for the OMP to assess groundwater conditions in the lower Lachlan formation at the depth of extraction from RWCC bore MW212. The location was installed adjacent to MW258 and MW259 to investigate the potential influence of Marshalls Creek in PFAS migration
8	Sampling location MW210 has been decommissioned. As of February 2024, an alternative sampling location (MW260) was identified and sampled in the October 2023 (E8) event (Cardno, 2024a).	MW210 was a drinking water supply bore that has been decommissioned by the Gumly Gumly Private Irrigation District. MW260 is included in this SAQP, located approx. 20m south of previous location MW210.
9	New monitoring wells (MW262 to MW270) installed between 27	Three sets of three nested monitoring wells were installed in East Wagga. The three nested wells targeted the Cowra, Upper Lachlan and Lower Lachlan formations.

No.	Description	Rationale
	September and 11 October 2024, not included in the original OMP.	The sites of the nested wells were selected to fill in gaps between the existing groundwater network and improve our understanding of the lateral PFAS extents. MW262 to MW264 are mid-way between MW258 cluster and the MW212 drinking water extraction bore (which are approx. 650m apart). MW265 to MW267 and MW268 to MW270 are located along Copland St between the existing clusters at MW258 and MW253 (which are approx. 1.6km apart)
10	Changes to the laboratory LOR for certain samples	All groundwater samples and surface water samples collected from the Murrumbidgee River will be analysed using a low level LOR. This is to enable comparison of PFOS concentrations to the NHMRC Draft Drinking Water Guidelines released in October, 2024.

9. Reporting

9.1 Sampling event factual report

Jacobs will prepare and submit a Sampling Event Factual Report to Defence following the completion of each sampling event. The Sampling Event Factual Report will be prepared in accordance with Defence PFAS OMP Reporting Guidance (Defence, 2024) and will include:

- Details of the scope completed.
- Details of the analytical suite for PFAS analytes.
- A description of the sampling methodologies used.
- Identification of any components of the scope that could not be completed.
- A summary of field observations (e.g. any visual or olfactory observations that may indicate impacts to surface water or groundwater), water quality parameter measurements.
- A summary of any changes to the monitoring network condition that may affect data integrity, or require rectification works, and recommendations for repair, replacement or decommissioning of a location.
- Evaluation of the applicability of adopted assessment levels.
- A presentation of the analysis results in a table that includes comparisons with PFAS guidelines.
- A presentation of groundwater levels for the event on a figure with inferred contours and inferred groundwater flow direction.
- Review of the suitability of the data for assessment purposes (QA/QC evaluation).
- Summary of field parameters and analytical results, with comparison to historical conditions and screening criteria.
- Consideration of results and other information against OMP triggers.
- Summary of key findings
- Inclusion of the following information as attachments:
  - Field data including field water quality parameter and gauging measurements.
  - Chain of custody forms.
  - Laboratory analytical certificates.
  - Equipment calibration certificates.

9.2 Interpretive report

At the end of each 12-month monitoring period, Jacobs will prepare and submit an Ongoing Monitoring Report to Defence. The Ongoing Monitoring Report will be prepared in accordance with Defence PFAS OMP Ongoing Monitoring Program Reporting Guidance (Defence, 2024) and will include:

- Executive Summary that provides focus on key findings, triggers and what these mean to the community and other stakeholders.
- Evidence of compliance or a summary of deviations to the requirements of the SAQP. Any recommendations for repair, replacement or decommissioning of a location
- Description of the base Site Setting (as outlined in Section 2), with updates based on observations and data collected during the round.

- Contextual and ancillary information that have occurred in the Management area which may affect monitoring results including remediation projects, infrastructure projects and significant weather events.
- Sampling Analysis methodology, including description of any deviations from the SAQP, or if no deviations a statement to that effect.
- Relevant figures depicting sampling locations and site-specific hydrogeological features, management/monitoring areas.
- Evaluation of the applicability of adopted assessment levels, including a discussion of guideline revisions and / or screening criteria as appropriate.
- A presentation of the analytical results in a table that includes comparisons with PFAS guidelines.
- A presentation of groundwater levels for the event on a figure with inferred contours and inferred groundwater flow direction.
- Review of the suitability of the data for assessment purposes (QA/QC evaluation).
- Summary of field parameters and analytical results, with comparison to historical conditions and screening criteria.
- Laboratory results and analysis including comparison with relevant screening criteria.
- Assessment and commentary on appropriate QA/QC procedures.
- Consideration of results and other information against OMP triggers. (e.g., mass flux assessments, remediation validation, data from other programs).
- Discussion to include consideration of key changes observed during the monitoring period, undertake statistical analysis (where appropriate), and consider seasonal variations.
- Data interpretation, including trends in groundwater concentration, gradient and flow directions.
- Assessment of statistically based trends (as described in Step 3 and 5 of the DQOs) that may inform decision making when it comes to the revision of the OMP including whether a review of the Conceptual Site Model is required or whether the risk profile has changed overall, or for any specific location at the Base, and a recommendation as to whether this should trigger an OMP and/or PMAP review, or other action.
- Overall summary of the changes and extent of PFAS and whether monitoring has met objectives of the OMP. Any identified changes will also consider whether an action or review is triggered as a result of the observed change.

9.3 Provision of results to off-base landowners

In addition to the reporting of groundwater and surface water data collected off-base in the factual and interpretive reports described in Section 9.1 and Section 9.2, the analytical results of off-base sampling will also need to be reported to the landowners, by way of a factual results letter. The results letters will be delivered to the landowners following Defence review and approval and include the following information, as a minimum:

- A brief description of the purpose of the OMP;
- The PFAS assessment levels relevant at the time of sampling;
- The laboratory LORs;
- The analytical results of the samples collected;
- A description of how the data will be used; and
- Contact details of the appropriate Defence representative.

In the event that the results exceed screening criteria, a follow-up consultation will be conducted with the property owner by telephone unless otherwise directed.

9.4 SAQP Review

Prior to each monitoring event, the SAQP will be reviewed to ensure it complies with the following guidelines:

- Heads of Environmental Protection Authority's Australia and New Zealand (HEPA) (2020), PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020.;
- National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM), National Environment Protection Council (NEPC), 2013;
- Department of Defence, 2016. Routine Environment Water Quality Monitoring Manual;
- 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; and
- State guidelines: EPA or equivalent state environmental regulators relevant guidelines. NSW EPA Contaminated Land Guidelines, Sampling design Part 1 Application (NSW EPA 2022).

Any changes to the SAQP identified as part of the review are to be documented by way of a revision of the SAQP.

10. References

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Appendix A. Figures

Figure 1. Wagga Wagga Site Locality Plan

Figure 2. Wagga Wagga Site Features

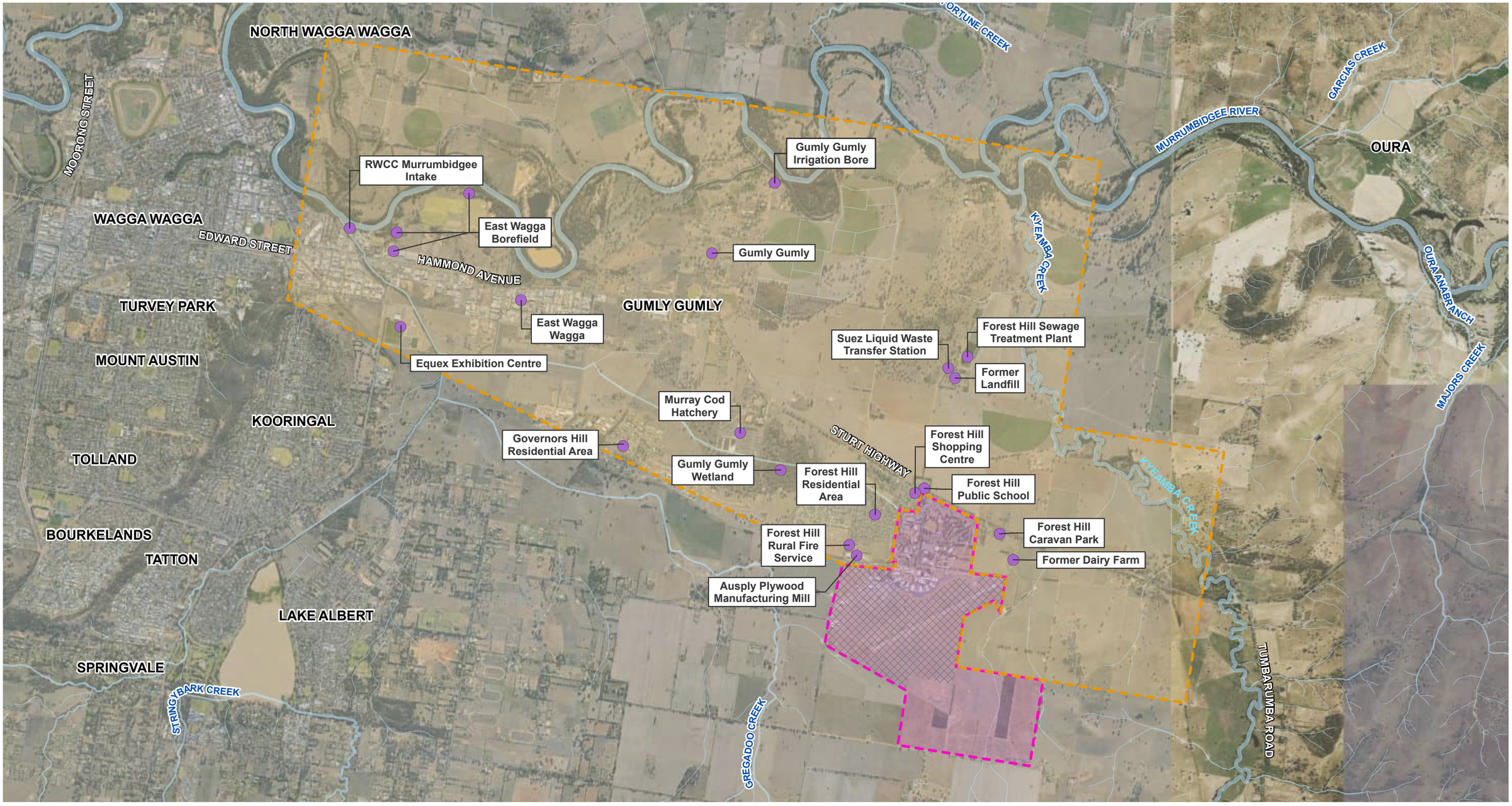
Figure 3. Wagga Wagga Groundwater Monitoring Locations

Figure 4. Wagga Wagga Surface Water Monitoring Locations

Figure 5. Refined Conceptual Site Model - A

Figure 6. Refined Conceptual Site Model - B

Figure 7. Illustrative Conceptual Site Model



Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- Point of interest
- City of Wagga Wagga Council Lease Area

0 500 1000 1500 Meters

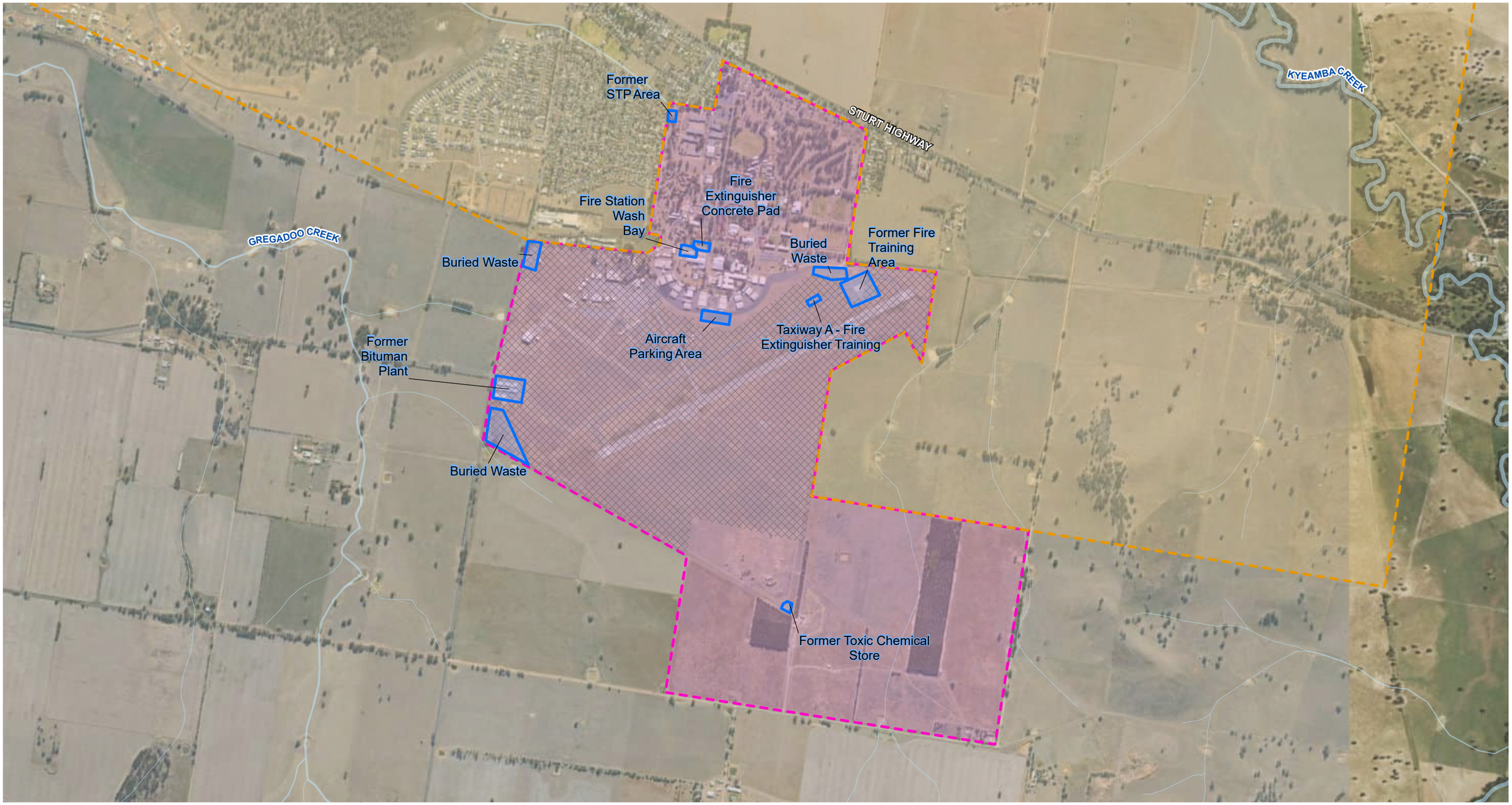
1:50,000 at A3
GDA 1994 MGA Zone 55

Data sources

Jacobs 2024
Department of Customer Service 2024
© Aerometrex Metromaps 2024

Figure 1 Wagga Wagga Site Locality Plan

Date: 21/11/2024 Path: \\ausyd0vs01\GISWork\NSW_IS419100_Kapooka_Holsworthy\Wagga Wagga\Apps\Figures\ArcPro\CSM\IS327200_CSM_Wagga.aprx
Created by : MKA | QA by : XX



Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- Potential Source Area
- City of Wagga Wagga Council Lease Area

0 200 400 600 Meters

1:20,000 at A3
GDA 1994 MGA Zone 55

Data sources

Jacobs 2024
Department of Customer Service 2024
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Figure 2 Wagga Wagga Site Features

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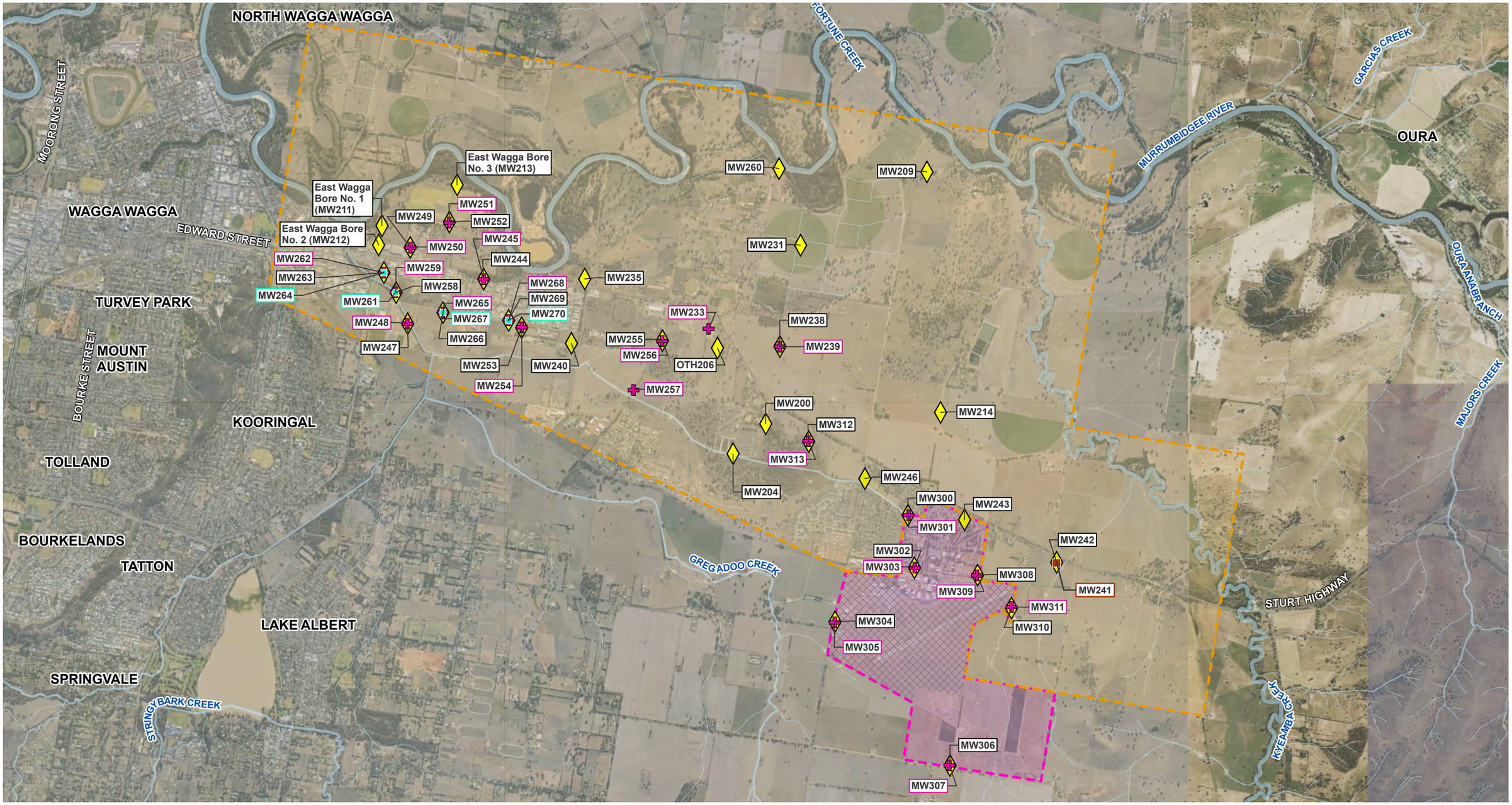


Groundwater Monitoring Wells

- Groundwater Cowra
- Groundwater Lachlan (Upper Formation)
- Groundwater Lachlan (Lower Formation)
- Wantabadgery Granite

City of Wagga Wagga Council Lease Area

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area

0 500 1000 1500 Meters

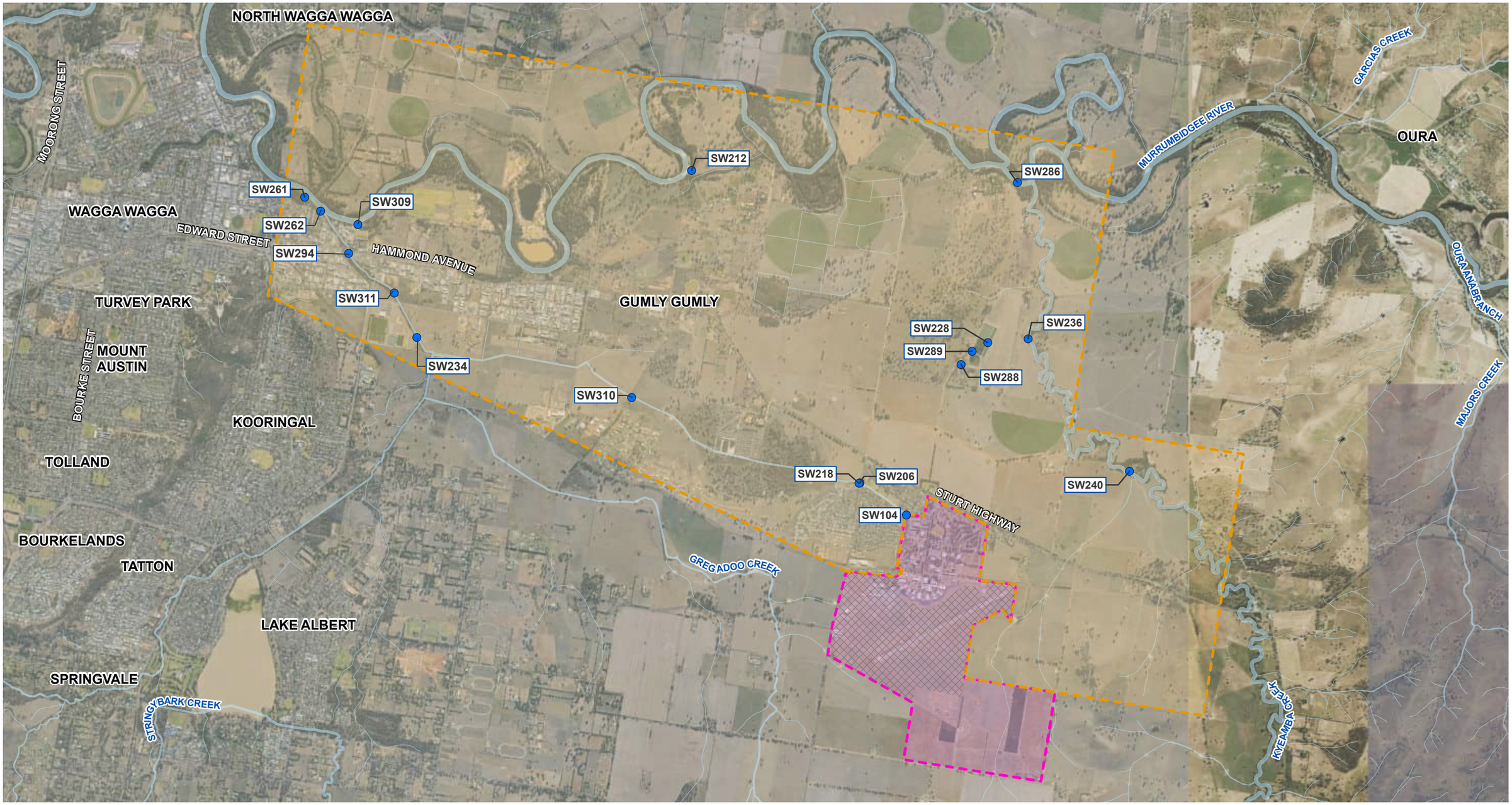
1:48,000 at A3
GDA 1994 MGA Zone 55

Data sources

Jacobs 2024
Department of Customer Service 2024
© Aerometrex Metromaps 2024

Figure 3 Wagga Wagga Groundwater Monitoring Locations

Date: 9/12/2024 Path: \\ausyd0vs01\GISWork\NSW_IS419100_Kapooka_Holsworthy\Wagga Wagga\Apps\Figures\ArcPro\CSM\IS327200_CSM_Wagga.aprx
Created by : MKA | QA by : XX



- Surface Water Monitoring Locations
- City of Wagga Wagga Council Lease Area

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area

0 500 1000 1500 Meters

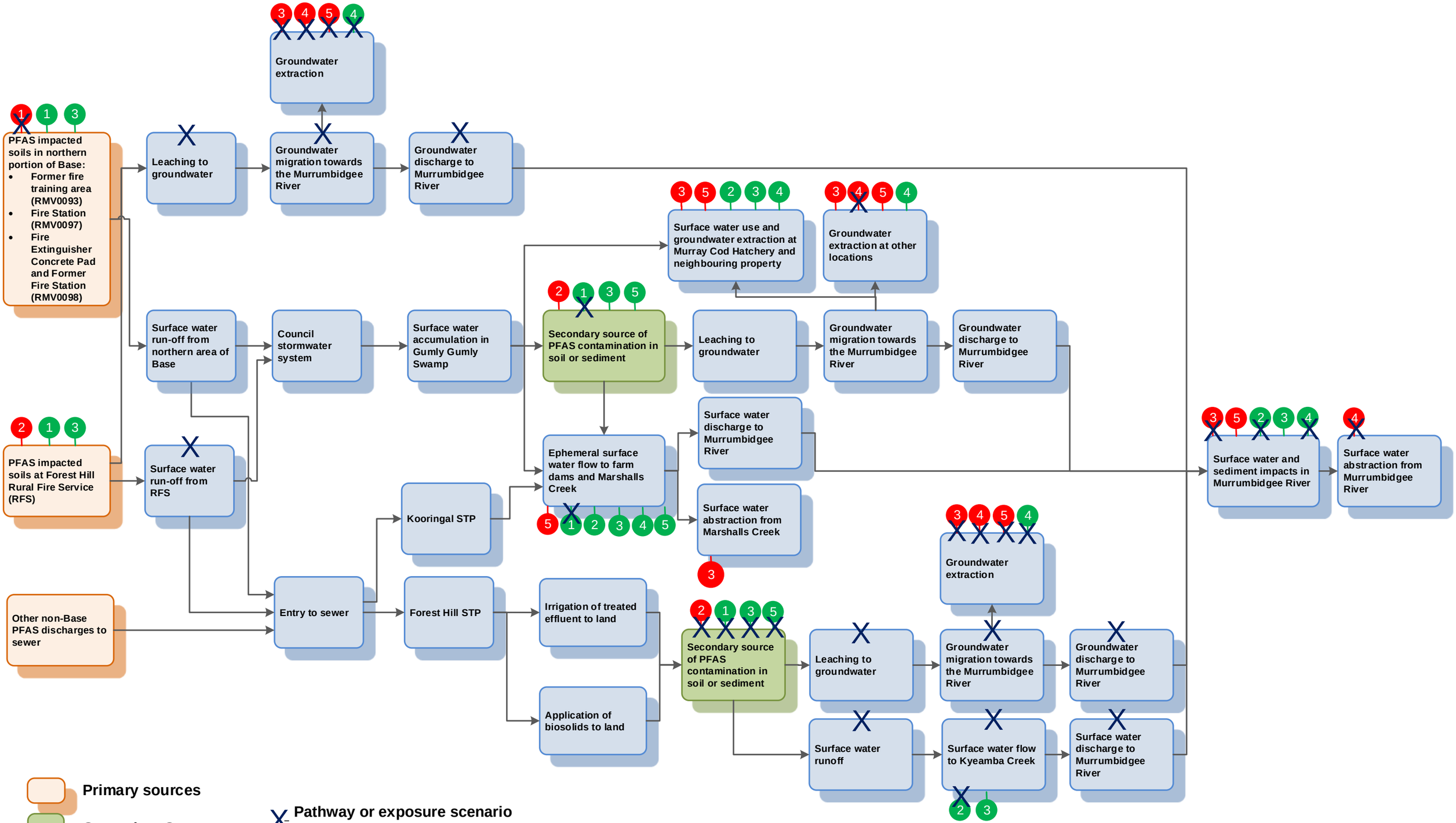
1:48,000 at A3
GDA 1994 MGA Zone 55

Data sources

Jacobs 2024
Department of Customer Service 2024
© Aerometrex Metromaps 2024

Figure 4 Wagga Wagga Surface Water Monitoring Locations

Date: 9/12/2024 Path: \\ausyd0vs01\GISWork\NSW_IS419100_Kapooka_Holsworthy\Wagga Wagga\Apps\Figures\ArcPro\CSM\IS327200_CSM_Wagga.aprx
Created by : MKA | QA by : XX



Human health receptor exposure scenarios

1. Dermal contact or incidental ingestion of soil, on-Base personnel
2. Dermal contact or incidental ingestion of soil, off-Base personnel
3. Direct contact or incidental ingestion of impacted surface water or groundwater
4. Ingestion of impacted surface water or groundwater
5. Consumption of food produced with impacted surface water or groundwater

Ecological receptor exposure scenarios

1. Direct exposure of terrestrial ecology to soil contamination
2. Direct exposure of aquatic ecology to surface water or sediment contamination
3. Consumption of impacted flora or fauna by higher order species
4. Consumption of impacted water by livestock
5. Consumption of impacted feed or other biota by livestock

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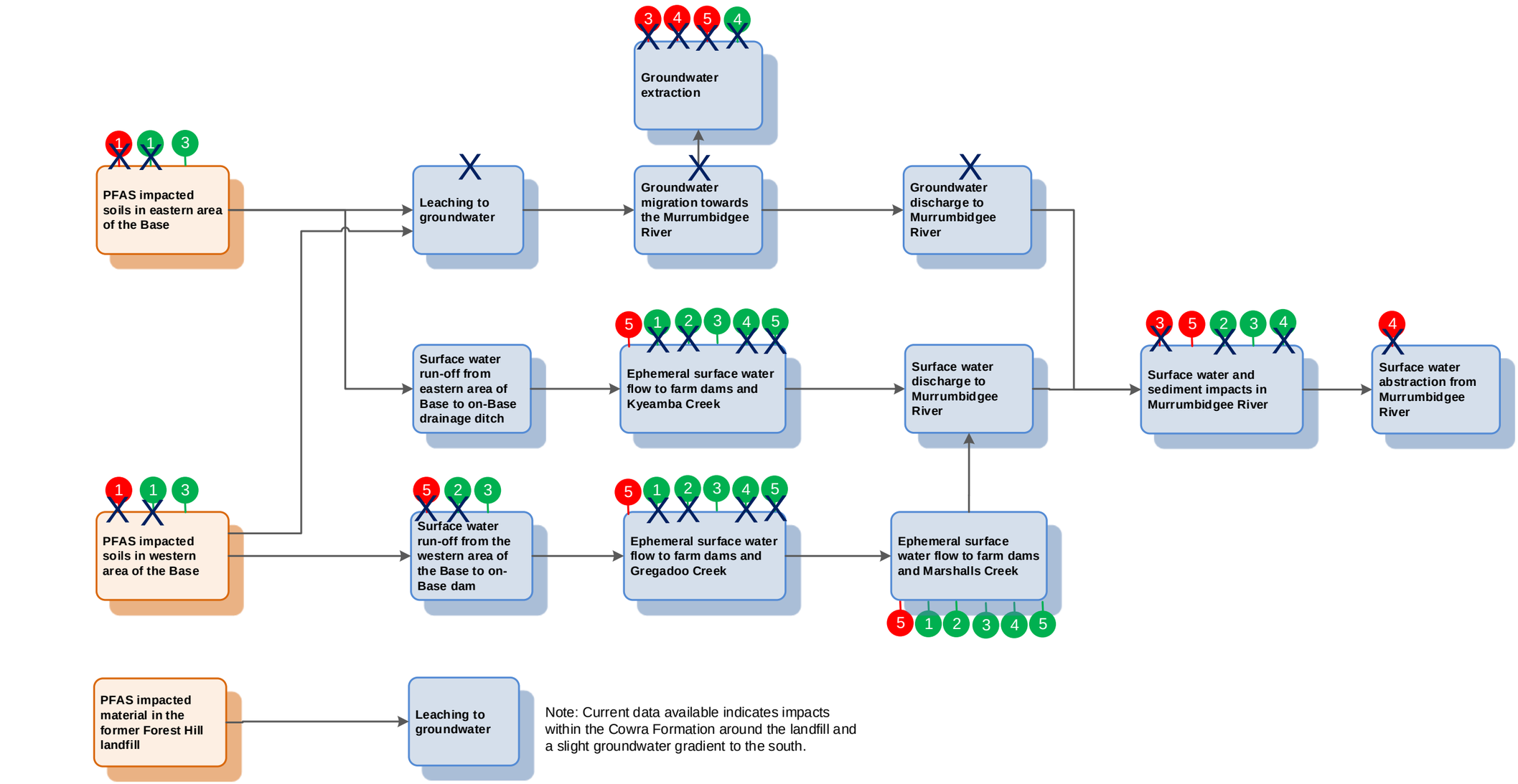
RAAF Base Wagga

Figure 5: Refined Conceptual Site Model A



Primary sources

Secondary Sources

X **Pathway or exposure scenario not present based on DSI findings**

Human health receptor exposure scenarios

1. Dermal contact or incidental ingestion of soil, on-Base personnel
2. Dermal contact or incidental ingestion of soil, off-Base personnel
3. Direct contact or incidental ingestion of impacted surface water or groundwater
4. Consumption of impacted surface water or groundwater
5. Consumption of food produced with impacted surface water or groundwater

Ecological receptor exposure scenarios

1. Direct exposure of terrestrial ecology to soil contamination
2. Direct exposure of aquatic ecology to surface water or sediment contamination
3. Consumption of impacted flora or fauna by higher order species
4. Consumption of impacted water by livestock
5. Consumption of impacted feed or other biota by livestock

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RAAF Base Wagga

Figure 6: Refined Conceptual Site Model B

Rainfall

On-base sources

Surface water runoff

Wetland

Murray Cod Hatchery

Infiltration

Runoff

Ground water dependent ecosystem

Murrumbidgee River

Town water sourced from bore and surface water

COWRA FORMATION

GRAVEL/SAND

SAND

CLAYS AND SILTS

Recharge through irrigation deep drainage

Deep rooted trees sourcing surface and groundwater

Water movement across river bed

SAND

CLAYS AND SILTS

Groundwater flow direction

LACHLAN FORMATION

CLAYS AND SILTS

Groundwater Bores

GRAVEL

GRAVEL

GRAVEL

CLAYS AND SILTS

Groundwater exchange between alluuium and bedrock

Weathered and fractured contact on granite

SHALE/SILTSTONE

Fault / sheer zone

Transportation mechanisms:

1. Direct release to soil or groundwater
2. Leaching of contaminants to groundwater
3. Migration of contaminants in groundwater
4. Stormwater transportation of soil / sediment particles
5. Surface run-off and stormwater run-off of PFAS impacted water
6. Spray drift of impacted water during fire fighting activities or irrigation
7. Transport via stormwater or sewer infrastructure

Human health receptor exposure scenarios

1. Dermal contact or incidental ingestion of soil, on-Base personnel
2. Dermal contact or incidental ingestion of soil, off-Base personnel
3. Direct contact or incidental ingestion of impacted surface water or groundwater
4. Ingestion of impacted surface water or groundwater
5. Consumption of food produced with impacted surface water or groundwater

Ecological receptor exposure scenarios

1. Direct exposure of terrestrial ecology to soil contamination
2. Direct exposure of aquatic ecology to surface water or sediment contamination
3. Consumption of impacted flora or fauna by higher order species
4. Consumption of impacted water by livestock
5. Consumption of impacted feed or other biota by livestock

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Figure 7: Illustrative Conceptual Site Model

Appendix B. Full PFAS Analytical Suite

Table 16. PFAS Analytical Suite

Acronym	Name	CAS Number	Standard suite	Reduced suite	Standard Water LOR (µg/L)	Low Level Water LOR (µg/L)	Lowest Water Screening Criteria (µg/L) Table 12	Draft NHMRC Drinking Water Guideline Values (µg/L) Table 13	LORs Acceptable
Perfluoroalkane Sulfonic Acids									
PFBS	Perfluorobutane sulfonic acid	375-73-5	X	X	0.02	0.002	-	1	Yes – Standard
PFPeS	Perfluoropentane sulfonic acid	2706-91-4	X		0.02	0.02	-	-	Yes – Standard
PFOS	Perfluorooctane sulfonic acid	1763-23-1	X	X	0.01	0.002	0.07	0.004	Yes – Low Level
PFHxS	Perfluorohexane sulfonic acid	355-46-4	X	X	0.02	0.002		0.03	Yes – Standard
PFHpS	Perfluoroheptane sulfonic acid	375-92-8	X		0.02	0.02	-	-	Yes – Standard
PFDS	Perfluorodecane sulfonic acid	335-77-3	X		0.02	0.01	-	-	Yes – Standard
Perfluoroalkane Carboxylic Acids									
PFBA	Perfluorobutanoic acid	375-22-4	X	X	0.1	0.002	-	-	Yes – Standard
PFPeA	Perfluoropentanoic acid	2706-90-3	X	X	0.02	0.002	-	-	Yes – Standard
PFHxA	Perfluorohexanoic acid	307-24-4	X	X	0.02	0.002	-	-	Yes – Standard
PFHpA	Perfluoroheptanoic acid	375-85-9	X	X	0.02	0.02	-	-	Yes – Standard
PFOA	Perfluorooctanoic acid	335-67-1	X	X	0.01	0.02	0.56	0.2	Yes – Standard
PFNA	Perfluorononanoic acid	375-95-1	X		0.02	0.02	-	-	Yes – Standard
PFDA	Perfluorodecanoic acid	335-76-2	X		0.02	0.02	-	-	Yes – Standard
PFUnDA	Perfluoroundecanoic acid	2058-94-8	X		0.02	0.02	-	-	Yes – Standard
PFDoDA	Perfluorododecanoic acid	307-55-1	X		0.02	0.05	-	-	Yes – Standard

Acronym	Name	CAS Number	Standard suite	Reduced suite	Standard Water LOR (µg/L)	Low Level Water LOR (µg/L)	Lowest Water Screening Criteria (µg/L) Table 12	Draft NHMRC Drinking Water Guideline Values (µg/L) Table 13	LORs Acceptable
PFTrDA	Perfluorotridecanoic acid	72629-94-8	X		0.02	0.02	-	-	Yes – Standard
PFTeDA	Perfluorotetradecanoic acid	376-06-7	X		0.05	0.05	-	-	Yes – Standard
FOSA	Perfluorooctane sulfonamide	754-91-6	X		0.02	0.05	-	-	Yes – Standard
MeFOSA	N - Methyl perfluorooctane sulfonamide	31506-32-8	X		0.05	0.05	-	-	Yes – Standard
EtFOSA	N - Ethyl perfluorooctane sulfonamide	4151-50-2	X		0.05	0.05	-	-	Yes – Standard
MeFOSE	N - methyl perfluorooctane sulfonamidoethanol	24448-09-7	X		0.05	0.02	-	-	Yes – Standard
EtFOSE	N - Ethyl perfluorooctane sulfonamidoethanol	1691-99-2	X		0.05	0.02	-	-	Yes – Standard
MeFOSAA	N - methyl perfluorooctane sulfonamidoacetic acid	2355-31-9	X		0.02	0.02	-	-	Yes – Standard
EtFOSAA	N - ethyl perfluorooctane sulfonamidoacetic acid	2991-50-6	X		0.02	0.02	-	-	Yes – Standard
(n:2) Fluorotelemer Sulfonic Acids									
4:2 FTS	4:2 Fluorotelomer sulfonic acid	757124-72-4	X	X	0.05	0.005	-	-	Yes – Standard
6:2 FTS	6:2 Fluorotelomer sulfonic acid	27619-97-2	X	X	0.05		-	-	Yes – Standard
8:2 FTS	8:2 Fluorotelomer sulfonic acid	39108-34-4	X	X	0.05		-	-	Yes – Standard
10:2 FTS	10:2 Fluorotelomer sulfonic acid	120226-60-0	X	X	0.05		-	-	Yes – Standard

Appendix C. Laboratory LOR, Assessment of Historical Concentrations

Laboratory Limit of Reporting - Assessment of Historical Concentrations

	PFAS - Perfluoroalkyl Sulfonic Acids		
	Perfluorooctane sulfonic acid (PFOS)		
	µg/L		
EQL	0.002	Proposed LOR	Comments
Location Code	Date	Field ID	Lab Report Number	Project ID			
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	1.36	Low Level LOR	While PFOS concentrations have historically exceeded 0.03 µg/L, to reduce the risk of error, low level analysis will be ordered for all GW samples.
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	0.75		
MW200	31 Mar 2020	0906_QC103_20200331	ES2011455	NSW_0906_PFASOMP	0.83		
MW200	31 Mar 2020	0906_QC203_20200331	712444	NSW_0906_PFASOMP	<0.01		
MW200	30 Sep 2020	0906_MW200_20200930	ES2034893	NSW_0906_PFASOMP	0.6		
MW200	23 Apr 2021	0906_MW200_20210423	ES2116296	NSW_0906_PFASOMP	0.39		
MW200	21 Oct 2021	0906_MW200_20211021	ES2139300	NSW_0906_PFASOMP	0.31		
MW200	03 May 2022	0906_MW200_20220503	EM2208337	NSW_0906_PFASOMP	0.28		
MW200	08 Nov 2022	0906_MW200_221108	EM2222380	NSW_0906_PFASOMP	0.28		
MW200	13 Apr 2023	0906_MW200_230413	EM2306915	NSW_0906_PFASOMP	0.3		
MW200	13 Oct 2023	0906_MW200_231013	EM2318608	NSW_0906_PFASOMP_23	0.3		
MW200	18 Apr 2024	0906_MW200_240418	EM2406725	NSW_0906_PFASOMP_24	0.2		
MW204	07 Jul 2017	0906_GW204_D_07072017	ES1716876	NSW_0906_PFAS	0.03	Low Level LOR	
MW204	07 Jul 2017	0906_QC101_07072017	ES1716876	NSW_0906_PFAS	0.04		
MW204	07 Jul 2017	0906_QC201_07072017	553701	NSW_0906_PFAS	0.02		
MW204	18 Jan 2018	0906_MW204_D_180118	ES1802488	NSW_0906_PFAS	0.01		
MW204	18 Jan 2018	0906_MW204_D_180118	ES1803668	NSW_0906_PFAS	-		
MW204	18 Jan 2018	0906_QC101_180118	ES1802488	NSW_0906_PFAS	0.02		
MW204	18 Jan 2018	0906_QC201_180118	581448	NSW_0906_PFAS	0.01		
MW204	20 Feb 2018	0906_MW204_D_180220	ES1805693	NSW_0906_PFAS	0.03		
MW204	30 Mar 2020	0906_MW204_20200330	ES2011455	NSW_0906_PFASOMP	<0.01		
MW204	01 Oct 2020	0906_MW204_20201001	ES2034893	NSW_0906_PFASOMP	<0.01		
MW204	23 Apr 2021	0906_MW204_20210423	ES2116296	NSW_0906_PFASOMP	<0.01		
MW204	21 Oct 2021	0906_MW204_20211021	ES2139300	NSW_0906_PFASOMP	<0.01		
MW204	03 May 2022	0906_MW204_20220503	EM2208337	NSW_0906_PFASOMP	<0.01		
MW204	09 Nov 2022	0906_MW204_221109	EM2222380	NSW_0906_PFASOMP	<0.01		
MW204	13 Apr 2023	0906_MW204_230413	EM2306915	NSW_0906_PFASOMP	<0.01		
MW204	13 Oct 2023	0906_MW204_231013	EM2318608	NSW_0906_PFASOMP_23	<0.01		
MW204	18 Apr 2024	0906_MW204_240418	EM2406725	NSW_0906_PFASOMP_24	<0.01		
MW209	07 Sep 2017	0906_GW209_D_170907	EM1712263	NSW_0906_PFAS	<0.01	Low Level LOR	
MW209	07 Sep 2017	0906_QC101_170907	EM1712263	NSW_0906_PFAS	<0.01		
MW209	07 Sep 2017	0906_QC201_170907	562566	NSW_0906_PFAS	<0.01		
MW209	12 Jan 2018	0906_MW209_D_180112	ES1801990	NSW_0906_PFAS	<0.01		
MW209	31 Mar 2020	0906_MW209_20200331	ES2011456	NSW_0906_PFASOMP	<0.01		
MW209	30 Sep 2020	0906_MW209_20200930	ES2034898	NSW_0906_PFASOMP	<0.01		
MW209	22 Apr 2021	0906_MW209_20210422	ES2116325	NSW_0906_PFASOMP	<0.01		
MW209	21 Oct 2021	0906_MW209_20211021	ES2139301	NSW_0906_PFASOMP	<0.01		
MW209	03 May 2022	0906_MW209_20220503	EM2208336	NSW_0906_PFASOMP	<0.01		
MW209	09 Nov 2022	0906_MW209_221109	EM2222392	NSW_0906_PFASOMP	<0.01		
MW209	18 Apr 2023	0906_MW209_230418	EM2306916	NSW_0906_PFASOMP	<0.01		
MW209	16 Oct 2023	0906_MW209_231016	EM2318609	NSW_0906_PFASOMP_23	<0.01		
MW209	19 Apr 2024	0906_MW209_240419	EM2406724	NSW_0906_PFASOMP_24	<0.01		
MW211	20 Jun 2017	0906_EWB1_170620	ES1715334	NSW_0906_PFAS	<0.01	Low Level LOR	
MW211	04 Dec 2017	0906_EWB1_171204	ES1731229	NSW_0906_PFAS	<0.01		
MW211	27 Mar 2020	0906_MW211_20200327	ES2011459	NSW_0906_PFASOMP	<0.01		
MW211	28 Sep 2020	0906_MW211_20200928	ES2034885	NSW_0906_PFASOMP	<0.01		
MW211	20 Apr 2021	0906_MW211_20210420	ES2116324	NSW_0906_PFASOMP	<0.01		
MW211	20 Oct 2021	0906_MW211_20211020	ES2139303	NSW_0906_PFASOMP	<0.01		
MW211	08 Nov 2022	0906_MW211_221108	EM2222397	NSW_0906_PFASOMP	<0.01		
MW211	19 Apr 2023	0906_GW025234_D_230419	EM2306927	NSW_0906_PFASOMP	<0.01		
MW211	19 Apr 2023	0906_GW025234_I_230419	EM2306927	NSW_0906_PFASOMP	<0.01		
MW211	22 Aug 2023	EWB1	EM2315195	NSW_0906_PFASMGMT	<0.01		
MW211	12 Oct 2023	0906_MW211_231012	EM2318611	NSW_0906_PFASOMP_23	<0.01		
MW211	15 Apr 2024	0906_MW211_240415	EM2406732	NSW_0906_PFASOMP_24	<0.01		
MW212	20 Jun 2017	0906_EWB2_170620	ES1715334	NSW_0906_PFAS	<0.01	Low Level LOR	
MW212	04 Dec 2017	0906_EWB2_171204	ES1731229	NSW_0906_PFAS	<0.01		
MW212	27 Mar 2020	0906_MW212_20200327	ES2011459	NSW_0906_PFASOMP	<0.01		
MW212	28 Sep 2020	0906_MW212_20200928	ES2034885	NSW_0906_PFASOMP	<0.01		
MW212	20 Apr 2021	0906_MW212_20210420	ES2116324	NSW_0906_PFASOMP	<0.01		
MW212	20 Oct 2021	0906_MW212_20211020	ES2139303	NSW_0906_PFASOMP	<0.01		
MW212	02 May 2022	0906_MW212_20220502	EM2208334	NSW_0906_PFASOMP	<0.01		
MW212	08 Nov 2022	0906_MW212_221108	EM2222397	NSW_0906_PFASOMP	<0.01		
MW212	22 Aug 2023	0906_QC101_230822	EM2315195	NSW_0906_PFASMGMT	<0.01		
MW212	22 Aug 2023	EWB2	EM2315195	NSW_0906_PFASMGMT	<0.01		
MW212	12 Oct 2023	0906_MW212_231012	EM2318611	NSW_0906_PFASOMP_23	<0.01		
MW212	15 Apr 2024	0906_MW212_240415	EM2406732	NSW_0906_PFASOMP_24	<0.01		
MW213	20 Jun 2017	0906_EWB3_170620	ES1715334	NSW_0906_PFAS	<0.01	Low Level LOR	
MW213	04 Dec 2017	0906_EWB3_171204	ES1731229	NSW_0906_PFAS	<0.01		
MW213	27 Mar 2020	0906_MW213_20200327	ES2011459	NSW_0906_PFASOMP	<0.01		
MW213	27 Mar 2020	0906_QC101_20200327	ES2011459	NSW_0906_PFASOMP	<0.01		
MW213	27 Mar 2020	0906_QC201_20200327	712442	NSW_0906_PFASOMP	<0.01		
MW213	28 Sep 2020	0906_MW213_20200928	ES2034885	NSW_0906_PFASOMP	<0.01		
MW213	28 Sep 2020	0906_QC201_20200928	749083	NSW_0906_PFASOMP	<0.01		
MW213	20 Apr 2021	0906_MW213_20210420	ES2116324	NSW_0906_PFASOMP	<0.01		
MW213	20 Oct 2021	0906_MW213_20211020	ES2139303	NSW_0906_PFASOMP	<0.01		
MW213	20 Oct 2021	0906_QC104_20211020	ES2139303	NSW_0906_PFASOMP	<0.01		
MW213	20 Oct 2021	0906_QC204_20211020	842910	NSW_0906_PFASOMP	<0.01		
MW213	02 May 2022	0906_MW213_20220502	EM2208334	NSW_0906_PFASOMP	<0.01		
MW213	22 Aug 2023	EWB3	EM2315195	NSW_0906_PFASMGMT	<0.01		
MW213	12 Oct 2023	0906_MW213_231012	EM2318611	NSW_0906_PFASOMP_23	<0.01		
MW213	15 Apr 2024	0906_MW213_240415	EM2406732	NSW_0906_PFASOMP_24	<0.01		
MW214	15 Jun 2016	WAG_GW047279	ES1613121	ACTNSW_Hist_202009-2	<0.01	Low Level LOR	
MW214	20 Jun 2017	0906_GW047279_170620	ES1715334	NSW_0906_PFAS	<0.01		
MW214	18 Jan 2018	0906_MW214_D_180118	ES1802545	NSW_0906_PFAS	<0.01		
MW214	31 Mar 2020	0906_MW214_20200331	ES2011568	NSW_0906_PFASOMP	<0.01		
MW214	01 Oct 2020	0906_MW214_20201001	ES2034891	NSW_0906_PFASOMP	<0.01		
MW214	27 Apr 2021	0906_MW214_20210427	ES2116327	NSW_0906_PFASOMP	<0.01		
MW214	21 Oct 2021	0906_MW214_20211021	ES2139228	NSW_0906_PFASOMP	<0.01		
MW214	04 May 2022	0906_MW214_20220503	EM2208338	NSW_0906_PFASOMP	<0.01		
MW214	07 Nov 2022	0906_MW214_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW214	14 Apr 2023	0906_MW214_230414	EM2306945	NSW_0906_PFASOMP	<0.01		
MW214	16 Oct 2023	0906_MW214_231016	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW214	17 Apr 2024	0906_MW214_240417	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW231	12 Jan 2018	0906_MW231_D_180112	ES1802473	NSW_0906_PFAS	<0.01	Low Level LOR	
MW231	26 Mar 2020	0906_MW231_20200326	ES2011456	NSW_0906_PFASOMP	<0.01		
MW231	26 Mar 2020	0906_MW231_20200326	ES2011459	NSW_0906_PFASOMP	<0.01		
MW231	30 Sep 2020	0906_MW231_20200930	ES2034898	NSW_0906_PFASOMP	<0.01		
MW231	23 Apr 2021	0906_MW231_20210423	ES2116325	NSW_0906_PFASOMP	<0.01		
MW231	22 Oct 2021	0906_MW231_20211022	ES2139301	NSW_0906_PFASOMP	<0.01		
MW231	04 May 2022	0906_MW231_20220504	EM2208336	NSW_0906_PFASOMP	<0.01		
MW231	09 Nov 2022	0906_MW231_221109	EM2222392	NSW_0906_PFASOMP	<0.01		
MW231	18 Apr 2023	0906_MW231_230418	EM2306916	NSW_0906_PFASOMP	<0.01		
MW231	16 Oct 2023	0906_MW231_231016	EM2318609	NSW_0906_PFASOMP_23	<0.01		
MW231	19 Apr 2024	0906_MW231_240419	EM2406724	NSW_0906_PFASOMP_24	<0.01		
MW233	20 Feb 2018	0906_MW233_I_180220	ES1805656	NSW_0906_PFAS	0.08	Low Level LOR	While PFOS concentrations have historically exceeded 0.03 µg/L, to reduce the risk of error, low level analysis will be ordered for all GW samples.
MW233	25 Mar 2020	0906_MW233_20200325	ES2011451	NSW_0906_PFASOMP	0.18		
MW233	30 Sep 2020	0906_MW233_20200930	ES2034890	NSW_0906_PFASOMP	0.25		
MW233	22 Apr 2021	0906_MW233_20210422	ES2116319	NSW_0906_PFASOMP	0.17		
MW233	19 Oct 2021	0906_MW233_20211019	ES2139304	NSW_0906_PFASOMP	0.28		
MW233	02 May 2022	0906_MW233_20220502	EM2208333	NSW_0906_PFASOMP	0.2		
MW233	07 Nov 2022	0906_MW233_221107	EM2222376	NSW_0906_PFASOMP	0.24		
MW233	13 Apr 2023	0906_MW233_ 230413	EM2306918	NSW_0906_PFASOMP	0.2		
MW233	16 Oct 2023	0906_MW233_231016	EM2318613	NSW_0906_PFASOMP_23	0.18		
MW233	19 Apr 2024	0906_MW233_240419	EM2406731	NSW_0906_PFASOMP_24	0.16		
MW235	11 Jan 2018	0906_MW235_D_180111	ES1802460	NSW_0906_PFAS	<0.01	Low Level LOR	
MW235	19 Dec 2019	0906_MW235_D_191219	ES1942606-AC	NSW_0906_PFAS	<0.01		
MW235	27 Mar 2020	0906_MW235_20200327	ES2011450	NSW_0906_PFASOMP	<0.01		
MW235	30 Sep 2020	0906_MW235_20200930	ES2034899	NSW_0906_PFASOMP	<0.01		
MW235	20 Apr 2021	0906_MW235_20210420	ES2115488	NSW_0906_PFASOMP	<0.01		
MW235	20 Oct 2021	0906_MW235_20211020	ES2139305	NSW_0906_PFASOMP	<0.01		
MW235	01 May 2022	0906_MW235_20220501	EM2208341	NSW_0906_PFASOMP	<0.01		
MW235	07 Nov 2022	0906_MW235_221107	EM2222377	NSW_0906_PFASOMP	<0.01		
MW235	13 Apr 2023	0906_MW235_230413	EM2306920	NSW_0906_PFASOMP	<0.01		
MW238	12 Dec 2019	0906_MW238_I_191212	ES1941492-AC	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW238	30 Mar 2020	0906_MW238_20200330	ES2011456	NSW_0906_PFASOMP	<0.01		
MW238	30 Sep 2020	0906_MW238_20200930	ES2034898	NSW_0906_PFASOMP	<0.01		
MW238	23 Apr 2021	0906_MW238_20210423	ES2116325	NSW_0906_PFASOMP	<0.01		
MW238	21 Oct 2021	0906_MW238_20211021	ES2139301	NSW_0906_PFASOMP	<0.01		
MW238	03 May 2022	0906_MW238_20220503	EM2208336	NSW_0906_PFASOMP	<0.01		
MW238	08 Nov 2022	0906_MW238_221108	EM2222392	NSW_0906_PFASOMP	<0.01		
MW238	18 Apr 2023	0906_MW238_230418	EM2306916	NSW_0906_PFASOMP	<0.01		
MW238	15 Oct 2023	0906_MW238_231015	EM2318609	NSW_0906_PFASOMP_23	<0.01		
MW238	19 Apr 2024	0906_MW238_240419	EM2406724	NSW_0906_PFASOMP_24	<0.01		
MW239	12 Dec 2019	0906_MW239_S_191212	ES1941492-AC	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW239	30 Mar 2020	0906_MW239_20200330	ES2011456	NSW_0906_PFASOMP	<0.01		
MW239	01 Oct 2020	0906_MW239_20201001	ES2034898	NSW_0906_PFASOMP	<0.01		
MW239	23 Apr 2021	0906_MW239_20210423	ES2116325	NSW_0906_PFASOMP	<0.01		
MW239	21 Oct 2021	0906_MW239_20211021	ES2139301	NSW_0906_PFASOMP	<0.01		
MW239	03 May 2022	0906_MW239_20220503	EM2208336	NSW_0906_PFASOMP	<0.01		
MW239	08 Nov 2022	0906_MW239_221108	EM2222392	NSW_0906_PFASOMP	<0.01		
MW239	18 Apr 2023	0906_MW239_230418	EM2306916	NSW_0906_PFASOMP	<0.01		
MW239	15 Oct 2023	0906_MW239_231015	EM2318609	NSW_0906_PFASOMP_23	<0.01		
MW239	19 Apr 2024	0906_MW239_240419	EM2406724	NSW_0906_PFASOMP_24	<0.01		
MW240	12 Dec 2019	0906_MW240_I_191212	ES1941492-AD	NSW_0906_PFASMGMT	0.05	Low Level LOR	
MW240	12 Dec 2019	0906_QC101_191212	ES1941492-AD	NSW_0906_PFASMGMT	0.04		
MW240	19 Dec 2019	0906_MW240_I_191219	ES1942606-AB	NSW_0906_PFASMGMT	0.02		
MW240	19 Dec 2019	0906_QC101_191219	ES1942606-AB	NSW_0906_PFASMGMT	0.02		
MW240	19 Dec 2019	0906_QC201_191219	695221	NSW_0906_PFASMGMT	0.01		
MW240	01 Apr 2020	0906_MW240_20200330	ES2011453	NSW_0906_PFASOMP	0.01		
MW240	30 Sep 2020	0906_MW240_20200930	ES2034866	NSW_0906_PFASOMP	0.06		
MW240	20 Apr 2021	0906_MW240_20210420	ES2116333	NSW_0906_PFASOMP	0.04		
MW240	19 Oct 2021	0906_MW240_20211019	ES2139237	NSW_0906_PFASOMP	0.04		
MW240	01 May 2022	0906_MW240_20220501	EM2208150	NSW_0906_PFASOMP	0.04		
MW240	07 Nov 2022	0906_MW240_20221107	EM2222399	NSW_0906_PFASOMP	0.04		
MW240	17 Apr 2023	0906_MW240_230417	EM2306921	NSW_0906_PFASOMP_23	0.05		
MW240	16 Oct 2023	0906_MW240_231016	EM2318614	NSW_0906_PFASOMP_23	0.06		

Laboratory Limit of Reporting - Assessment of Historical Concentrations

	PFAS - Perfluoroalkyl Sulfonic Acids		
	Perfluorooctane sulfonic acid (PFOS)		
	µg/L		
EQL	0.002	Proposed LOR	Comments
Location Code	Date	Field ID	Lab Report Number	Project ID			
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	1.36		
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	0.75		
MW240	20 Apr 2024	0906_MW240_240420	EM2406730	NSW_0906_PFASOMP_24	0.02		
MW241	31 Mar 2020	0906_MW241_20200331	ES2011462	NSW_0906_PFASOMP	<0.01	Low Level LOR	
MW241	01 Oct 2020	0906_MW241_20201001	ES2034889	NSW_0906_PFASOMP	<0.01		
MW241	22 Apr 2021	0906_MW241_20210422	ES2116320	NSW_0906_PFASOMP	<0.01		
MW241	24 Oct 2021	0906_MW241_20211024	ES2139236	NSW_0906_PFASOMP	<0.01		
MW241	02 May 2022	0906_MW241_20220502	EM2208340	NSW_0906_PFASOMP	<0.01		
MW241	08 Nov 2022	0906_MW241_221108	EM2222383	NSW_0906_PFASOMP	<0.01		
MW241	13 Apr 2023	0906_MW241_230413	EM2306922	NSW_0906_PFASOMP	<0.01		
MW241	13 Oct 2023	0906_MW241_231013	EM2318617	NSW_0906_PFASOMP_23	<0.01		
MW241	18 Apr 2024	0906_MW241_240418	EM2406729	NSW_0906_PFASOMP_24	<0.01		
MW242	12 Mar 2020	0906_MW242_I_200312	ES2008845	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW242	31 Mar 2020	0906_MW242_20200331	ES2011462	NSW_0906_PFASOMP	<0.01		
MW242	01 Oct 2020	0906_MW242_20201001	ES2034889	NSW_0906_PFASOMP	<0.01		
MW242	22 Apr 2021	0906_MW242_20210422	ES2116320	NSW_0906_PFASOMP	<0.01		
MW242	22 Oct 2021	0906_MW242_20211022	ES2139236	NSW_0906_PFASOMP	<0.01		
MW242	02 May 2022	0906_MW242_20220502	EM2208340	NSW_0906_PFASOMP	<0.01		
MW242	08 Nov 2022	0906_MW242_221108	EM2222383	NSW_0906_PFASOMP	<0.01		
MW242	14 Apr 2023	0906_MW242_230414	EM2306922	NSW_0906_PFASOMP	<0.01		
MW242	13 Oct 2023	0906_MW242_231013	EM2318617	NSW_0906_PFASOMP_23	<0.01		
MW242	18 Apr 2024	0906_MW242_240418	EM2406729	NSW_0906_PFASOMP_24	<0.01		
MW243	10 Mar 2020	0906_MW243_I_200310	ES2008845	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW243	10 Mar 2020	0906_QC101_200310	ES2008845	NSW_0906_PFASMGMT	<0.01		
MW243	10 Mar 2020	0906_QC201_200310	707955	NSW_0906_PFASMGMT	<0.01		
MW243	30 Mar 2020	0906_MW243_20200330	ES2011457	NSW_0906_PFASOMP	<0.01		
MW243	01 Oct 2020	0906_MW243_20201001	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW243	23 Apr 2021	0906_MW243_20210423	ES2116327	NSW_0906_PFASOMP	<0.01		
MW243	23 Apr 2021	0906_QC106_20210423	ES2116327	NSW_0906_PFASOMP	<0.01		
MW243	23 Apr 2021	0906_QC206_20210423	792771	NSW_0906_PFASOMP	<0.01		
MW243	20 Oct 2021	0906_MW243_20211020	ES2139228	NSW_0906_PFASOMP	<0.01		
MW243	02 May 2022	0906_MW243_20220502	EM2208338	NSW_0906_PFASOMP	<0.01		
MW243	07 Nov 2022	0906_MW243_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW243	07 Nov 2022	0906_QC103_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW243	07 Nov 2022	0906_QC203_221107	940477	NSW_0906_PFASOMP	0.01		
MW243	17 Apr 2023	0906_MW243_230417	EM2306945	NSW_0906_PFASOMP	<0.01		
MW243	14 Oct 2023	0906_MW243_231014	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW243	14 Oct 2023	0906_QC100_231014	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW243	14 Oct 2023	0906_QC200_231014	1036478	NSW_0906_PFASOMP_23	<0.01		
MW243	16 Apr 2024	0906_QC204_240417	1090100_0906	NSW_0906_PFASOMP_24	<0.01		
MW243	17 Apr 2024	0906_MW243_240417	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW243	17 Apr 2024	0906_QC104_240417	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW244	13 Mar 2020	0906_MW244_I_200313	ES2009442	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW244	01 Apr 2020	0906_MW244_20200401	ES2011562	NSW_0906_PFASOMP	<0.01		
MW244	01 Oct 2020	0906_MW244_20201001	ES2034866	NSW_0906_PFASOMP	<0.01		
MW244	20 Apr 2021	0906_MW244_20210420	ES2116333	NSW_0906_PFASOMP	<0.01		
MW244	19 Oct 2021	0906_MW244_20211019	ES2139237	NSW_0906_PFASOMP	<0.01		
MW244	03 May 2022	0906_MW244_20220503	EM2208150	NSW_0906_PFASOMP	<0.01		
MW244	09 Nov 2022	0906_MW244_20221109	EM2222399	NSW_0906_PFASOMP	<0.01		
MW244	14 Apr 2023	0906_MW244_230414	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW244	16 Aug 2023	0906_MW244_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW244	14 Oct 2023	0906_MW244_231014	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW244	14 Oct 2023	0906_QC102_231014	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW244	14 Oct 2023	0906_QC202_231014	1036481	NSW_0906_PFASOMP_23	<0.01		
MW244	20 Apr 2024	0906_MW244_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW245	13 Mar 2020	0906_MW245_S_200313	ES2009442	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW245	01 Apr 2020	0906_MW245_20200401	ES2011562	NSW_0906_PFASOMP	<0.01		
MW245	01 Oct 2020	0906_MW245_20201001	ES2034866	NSW_0906_PFASOMP	<0.01		
MW245	20 Apr 2021	0906_MW245_20210420	ES2116333	NSW_0906_PFASOMP	<0.01		
MW245	19 Oct 2021	0906_MW245_20211019	ES2139237	NSW_0906_PFASOMP	<0.01		
MW245	30 Apr 2022	0906_MW245_20220430	EM2208150	NSW_0906_PFASOMP	<0.01		
MW245	09 Nov 2022	0906_MW245_20221109	EM2222399	NSW_0906_PFASOMP	<0.01		
MW245	14 Apr 2023	0906_MW245_230414	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW245	16 Aug 2023	0906_MW245_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW245	14 Oct 2023	0906_MW245_231014	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW245	20 Apr 2024	0906_MW245_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW246	22 Jun 2020	0906_MW246_I_200622	ES2021594	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW246	30 Jul 2020	0906_MW246_I_200730	ES2026752	NSW_0906_PFASMGMT	<0.01		
MW246	30 Jul 2020	0906_QC102_200730	ES2026752	NSW_0906_PFASMGMT	<0.01		
MW246	30 Jul 2020	0906_QC202_200730	735782	NSW_0906_PFASMGMT	<0.01		
MW246	20 Apr 2021	0906_MW246_20210420	ES2116333	NSW_0906_PFASOMP	<0.01		
MW246	20 Oct 2021	0906_MW246_20211020	ES2139237	NSW_0906_PFASOMP	<0.01		
MW246	01 May 2022	0906_MW246_20220501	EM2208150	NSW_0906_PFASOMP	<0.01		
MW246	07 Nov 2022	0906_MW246_20221107	EM2222399	NSW_0906_PFASOMP	<0.01		
MW246	15 Apr 2023	0906_MW246_230415	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW246	16 Oct 2023	0906_MW246_231016	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW246	20 Apr 2024	0906_MW246_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW247	30 Jul 2020	0906_MW247_I_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW247	27 Apr 2021	0906_MW247_20210427	ES2116333	NSW_0906_PFASOMP	<0.01		
MW247	21 Oct 2021	0906_MW247_20211021	ES2139237	NSW_0906_PFASOMP	<0.01		
MW247	02 May 2022	0906_MW247_20220502	EM2208150	NSW_0906_PFASOMP	<0.01		
MW247	09 Nov 2022	0906_MW247_20221109	EM2222399	NSW_0906_PFASOMP	<0.01		
MW247	15 Apr 2023	0906_MW247_230415	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW247	16 Aug 2023	0906_MW247_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW247	15 Oct 2023	0906_MW247_231015	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW247	18 Apr 2024	0906_MW247_240418	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW248	30 Jul 2020	0906_MW248_S_200730	ES2026752	NSW_0906_PFASMGMT	0.09	Low Level LOR	While PFOS concentrations have historically exceeded 0.03 µg/L, to reduce the risk of error, low level analysis will be ordered for all GW samples.
MW248	27 Apr 2021	0906_MW248_20210427	ES2116333	NSW_0906_PFASOMP	0.07		
MW248	20 Oct 2021	0906_MW248_20211020	ES2139237	NSW_0906_PFASOMP	0.08		
MW248	02 May 2022	0906_MW248_20220502	EM2208150	NSW_0906_PFASOMP	0.06		
MW248	09 Nov 2022	0906_MW248_20221109	EM2222399	NSW_0906_PFASOMP	0.07		
MW248	15 Apr 2023	0906_MW248_230415	EM2306921	NSW_0906_PFASOMP_23	0.07		
MW248	11 Aug 2023	0906_QC201_230816	1018084	NSW_0906_PFASMGMT	0.11		
MW248	16 Aug 2023	0906_MW248_230816	EM2314805	NSW_0906_PFASMGMT	0.1		
MW248	16 Aug 2023	0906_QC101_230816	EM2314805	NSW_0906_PFASMGMT	0.1		
MW248	15 Oct 2023	0906_MW248_231015	EM2318614	NSW_0906_PFASOMP_23	0.08		
MW248	18 Apr 2024	0906_MW248_240418	EM2406730	NSW_0906_PFASOMP_24	0.08		
MW249	30 Jul 2020	0906_MW249_I_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW249	28 Apr 2021	0906_MW249_20210428	ES2116333	NSW_0906_PFASOMP	<0.01		
MW249	21 Oct 2021	0906_MW249_20211021	ES2139237	NSW_0906_PFASOMP	<0.01		
MW249	30 Apr 2022	0906_MW249_20220430	EM2208150	NSW_0906_PFASOMP	<0.01		
MW249	09 Nov 2022	0906_MW249_20221109	EM2222399	NSW_0906_PFASOMP	<0.01		
MW249	15 Apr 2023	0906_MW249_230415	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW249	16 Aug 2023	0906_MW249_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW249	15 Oct 2023	0906_MW249_231015	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW249	05 Mar 2024	0906_MW249_240305	EM2403604	NSW_0906_PFASMGMT	<0.01		
MW249	20 Apr 2024	0906_MW249_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW250	30 Jul 2020	0906_MW250_S_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW250	02 Sep 2020	0906_QC202_200902	742937	NSW_0906_PFASMGMT	0.06		
MW250	03 Sep 2020	0906_MW250_S_200902	ES2031377	NSW_0906_PFASMGMT	<0.01		
MW250	28 Apr 2021	0906_MW250_20210428	ES2116333	NSW_0906_PFASOMP	<0.01		
MW250	28 Apr 2021	0906_QC107_20210428	ES2116333	NSW_0906_PFASOMP	<0.01		
MW250	28 Apr 2021	0906_QC207_20210428	792804	NSW_0906_PFASOMP	<0.01		
MW250	19 Oct 2021	0906_MW250_20211019	ES2139237	NSW_0906_PFASOMP	<0.01		
MW250	09 Nov 2022	0906_MW250_20221109	EM2222399	NSW_0906_PFASOMP	<0.01		
MW250	15 Apr 2023	0906_MW250_230415	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW250	16 Aug 2023	0906_MW250_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW250	15 Oct 2023	0906_MW250_231015	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW250	04 Mar 2024	0906_MW250_240304	EM2403604	NSW_0906_PFASMGMT	<0.01		
MW250	20 Apr 2024	0906_MW250_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW251	30 Jul 2020	0906_MW251_S_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW251	30 Jul 2020	0906_QC101_200730	ES2026752	NSW_0906_PFASMGMT	<0.01		
MW251	30 Jul 2020	0906_QC201_200730	735782	NSW_0906_PFASMGMT	<0.01		
MW251	22 Apr 2021	0906_MW251_20210422	ES2118542	NSW_0906_PFASOMP	<0.01		
MW251	21 Oct 2021	0906_MW251_20211021	ES2139237	NSW_0906_PFASOMP	<0.01		
MW251	30 Apr 2022	0906_MW251_20220430	EM2208150	NSW_0906_PFASOMP	<0.01		
MW251	17 Apr 2023	0906_MW251_230417	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW251	16 Aug 2023	0906_MW251_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW251	15 Oct 2023	0906_MW251_231015	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW251	15 Oct 2023	0906_QC105_231015	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW251	15 Oct 2023	0906_QC205_231015	1036481	NSW_0906_PFASOMP_23	<0.01		
MW251	04 Mar 2024	0906_MW251_240304	EM2403604	NSW_0906_PFASMGMT	<0.01		
MW251	20 Apr 2024	0906_MW251_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW252	30 Jul 2020	0906_MW252_I_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW252	22 Apr 2021	0906_MW252_20210422	ES2118542	NSW_0906_PFASOMP	<0.01		
MW252	19 Oct 2021	0906_MW252_20211019	ES2139237	NSW_0906_PFASOMP	<0.01		
MW252	30 Apr 2022	0906_MW252_20220430	EM2208150	NSW_0906_PFASOMP	<0.01		
MW252	17 Apr 2023	0906_MW252_230417	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW252	16 Aug 2023	0906_MW252_230816	EM2314805	NSW_0906_PFASMGMT	<0.01		
MW252	15 Oct 2023	0906_MW252_231015	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW252	04 Mar 2024	0906_MW252_240304	EM2403604	NSW_0906_PFASMGMT	<0.01		
MW252	20 Apr 2024	0906_MW252_240420	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW253	30 Jul 2020	0906_MW253_I_200730	ES2026752	NSW_0906_PFASMGMT	0.01	Low Level LOR	
MW253	20 Apr 2021	0906_MW253_20210420	ES2116333	NSW_0906_PFASOMP	<0.01		
MW253	19 Oct 2021	0906_MW253_20211019	ES2139237	NSW_0906_PFASOMP	0.02		
MW253	19 Oct 2021	0906_QC102_20211019	ES2139237	NSW_0906_PFASOMP	0.01		
MW253	19 Oct 2021	0906_QC202_20211019	842903	NSW_0906_PFASOMP	0.02		
MW253	30 Apr 2022	0906_MW253_20220430	EM2208150	NSW_0906_PFASOMP	<0.01		
MW253	07 Nov 2022	0906_MW253_20221107	EM2222399	NSW_0906_PFASOMP	<0.01		
MW253	17 Apr 2023	0906_MW253_230417	EM2306921	NSW_0906_PFASOMP_23	0.02		
MW253	16 Aug 2023	0906_MW253_230816	EM2314805	NSW_0906_PFASMGMT	0.05		
MW253	15 Oct 2023	0906_MW253_231015	EM2318614	NSW_0906_PFASOMP_23	0.03		
MW253	15 Oct 2023	0906_QC106_231015	EM2318614	NSW_0906_PFASOMP_23	0.06		
MW253	15 Oct 2023	0906_QC206_231015	1036481	NSW_0906_PFASOMP_23	0.04		
MW253	19 Dec 2023	0906_MW253_231219	EM2322880	NSW_0906_PFASMGMT	0.07		
MW253	20 Apr 2024	0906_MW253_240420	EM2406730	NSW_0906_PFASOMP_24	0.1		

Laboratory Limit of Reporting - Assessment of Historical Concentrations

	PFAS - Perfluoroalkyl Sulfonic Acids		
	Perfluorooctane sulfonic acid (PFOS)		
	µg/L		
EQL	0.002	Proposed LOR	Comments

Location Code	Date	Field ID	Lab Report Number	Project ID			
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	1.36		
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	0.75		
MW253	07 Nov 2024	0906_MW253_241107	ES2436595	NSW_0906_PFASMGMT_24	0.013		
MW254	30 Jul 2020	0906_MW254_S_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	While PFOS concentrations have historically exceeded 0.03 µg/L, to reduce the risk of error, low level analysis will be ordered for all GW samples.
MW254	20 Apr 2021	0906_MW254_20210420	ES2116333	NSW_0906_PFASOMP	<0.01		
MW254	19 Oct 2021	0906_MW254_20211019	ES2139237	NSW_0906_PFASOMP	<0.01		
MW254	19 Oct 2021	0906_QC101_20211019	ES2139237	NSW_0906_PFASOMP	<0.01		
MW254	19 Oct 2021	0906_QC201_20211019	842903	NSW_0906_PFASOMP	<0.01		
MW254	30 Apr 2022	0906_MW254_20220430	EM2208150	NSW_0906_PFASOMP	0.13		
MW254	07 Nov 2022	0906_MW254_20221107	EM2222399	NSW_0906_PFASOMP	0.02		
MW254	17 Apr 2023	0906_MW254_230417	EM2306921	NSW_0906_PFASOMP_23	0.02		
MW254	16 Aug 2023	0906_MW254_230816	EM2314805	NSW_0906_PFASMGMT	0.32		
MW254	15 Oct 2023	0906_MW254_231015	EM2318614	NSW_0906_PFASOMP_23	0.27		
MW254	19 Dec 2023	0906_MW254_231219	EM2322880	NSW_0906_PFASMGMT	0.26		
MW254	20 Apr 2024	0906_MW254_240420	EM2406730	NSW_0906_PFASOMP_24	0.3		
MW254	07 Nov 2024	0906_MW254_241107	ES2436595	NSW_0906_PFASMGMT_24	0.247		
MW255	30 Jul 2020	0906_MW255_I_200730	ES2026752	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW255	22 Apr 2021	0906_MW255_20210422	ES2116333	NSW_0906_PFASOMP	0.04		
MW255	19 Oct 2021	0906_MW255_20211019	ES2139237	NSW_0906_PFASOMP	0.01		
MW255	30 Apr 2022	0906_MW255_20220430	EM2208150	NSW_0906_PFASOMP	<0.01		
MW255	08 Nov 2022	0906_MW255_20221108	EM2222399	NSW_0906_PFASOMP	0.02		
MW255	08 Nov 2022	0906_QC106_20221108	EM2222399	NSW_0906_PFASOMP	0.02		
MW255	08 Nov 2022	0906_QC206_221108	940477	NSW_0906_PFASOMP	0.04		
MW255	15 Apr 2023	0906_MW255_230415	EM2306921	NSW_0906_PFASOMP_23	0.02		
MW255	16 Oct 2023	0906_MW255_231016	EM2318614	NSW_0906_PFASOMP_23	0.01		
MW255	17 Apr 2024	0906_MW255_240417	EM2406730	NSW_0906_PFASOMP_24	0.03		
MW256	10 Sep 2020	0906_MW256_S_200910	ES2032277	NSW_0906_PFASMGMT	0.04	Low Level LOR	
MW256	10 Sep 2020	0906_QC101_200910	ES2032277	NSW_0906_PFASMGMT	0.02		
MW256	10 Sep 2020	0906_QC201_200910	744316	NSW_0906_PFASMGMT	<0.01		
MW256	22 Apr 2021	0906_MW256_20210422	ES2116333	NSW_0906_PFASOMP	0.07		
MW256	19 Oct 2021	0906_MW256_20211019	ES2139237	NSW_0906_PFASOMP	0.01		
MW256	02 May 2022	0906_MW256_20220502	EM2208150	NSW_0906_PFASOMP	<0.01		
MW256	08 Nov 2022	0906_MW256_20221108	EM2222399	NSW_0906_PFASOMP	<0.01		
MW256	15 Apr 2023	0906_MW256_230415	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW256	16 Oct 2023	0906_MW256_231016	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW256	17 Apr 2024	0906_MW256_240417	EM2406730	NSW_0906_PFASOMP_24	0.03		
MW257	10 Sep 2020	0906_MW257_S_200910	ES2032277	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW257	02 May 2022	0906_MW257_20220502	EM2208150	NSW_0906_PFASOMP	<0.01		
MW257	09 Nov 2022	0906_MW257_20221109	EM2222399	NSW_0906_PFASOMP	<0.01		
MW257	15 Apr 2023	0906_MW257_230415	EM2306921	NSW_0906_PFASOMP_23	<0.01		
MW257	16 Oct 2023	0906_MW257_231016	EM2318614	NSW_0906_PFASOMP_23	<0.01		
MW257	17 Apr 2024	0906_MW257_240417	EM2406730	NSW_0906_PFASOMP_24	<0.01		
MW258	11 Aug 2023	0906_MW258_230811	EM2314653	NSW_0906_PFASMGMT	0.01	Low Level LOR	
MW258	11 Aug 2023	0906_QC101_230811	EM2314653	NSW_0906_PFASMGMT	0.02		
MW258	11 Aug 2023	0906_QC201_230811	1017202	NSW_0906_PFASMGMT	0.01		
MW258	16 Aug 2023	0906_MW258_230816	EM2314805	NSW_0906_PFASMGMT	-		
MW258	12 Oct 2023	0906_MW258_231012	EM2318611	NSW_0906_PFASOMP_23	0.01		
MW258	13 Dec 2023	0906_QC201_231213	1055053	NSW_0906_PFASMGMT	0.02		
MW258	19 Dec 2023	0906_MW258_231219	EM2322880	NSW_0906_PFASMGMT	0.01		
MW258	19 Dec 2023	0906_QC101_231219	EM2322880	NSW_0906_PFASMGMT	0.02		
MW258	22 Jan 2024	0906_MW258_240122	ES2402411	NSW_0906_PFASMGMT	0.02		
MW258	22 Jan 2024	0906_QC101_240122	ES2402411	NSW_0906_PFASMGMT	0.02		
MW258	22 Jan 2024	0906_QC201_240122	1062741	NSW_0906_PFASMGMT	0.01		
MW258	04 Mar 2024	0906_MW258_240304	EM2403604	NSW_0906_PFASMGMT	0.01		
MW258	19 Apr 2024	0906_MW258_240419	EM2406732	NSW_0906_PFASOMP_24	<0.01		
MW258	07 Nov 2024	0906_MW258_241107	ES2436595	NSW_0906_PFASMGMT_24	0.014		
MW259	11 Aug 2023	0906_MW259_230811	EM2314653	NSW_0906_PFASMGMT	0.02	Low Level LOR	While PFOS concentrations have historically exceeded 0.03 µg/L, to reduce the risk of error, low level analysis will be ordered for all GW samples.
MW259	11 Aug 2023	0906_QC102_230811	EM2314653	NSW_0906_PFASMGMT	0.02		
MW259	11 Aug 2023	0906_QC202_230811	1017202	NSW_0906_PFASMGMT	0.03		
MW259	16 Aug 2023	0906_MW259_230816	EM2314805	NSW_0906_PFASMGMT	-		
MW259	12 Oct 2023	0906_MW259_231012	EM2318611	NSW_0906_PFASOMP_23	0.02		
MW259	19 Dec 2023	0906_MW259_231219	EM2322880	NSW_0906_PFASMGMT	0.02		
MW259	22 Jan 2024	0906_MW259_240122	ES2402411	NSW_0906_PFASMGMT	0.04		
MW259	04 Mar 2024	0906_MW259_240304	EM2403604	NSW_0906_PFASMGMT	0.03		
MW259	19 Apr 2024	0906_MW259_240419	EM2406732	NSW_0906_PFASOMP_24	0.03		
MW259	07 Nov 2024	0906_MW259_241107	ES2436595	NSW_0906_PFASMGMT_24	0.123		
MW260	13 Oct 2023	0906_MW260_231013	EM2318610	NSW_0906_PFASOMP_23	<0.01	Low Level LOR	
MW260	26 Jan 2024	0906_MW260_240126	EM2401164	NSW_0906_PFASMGMT	<0.01		
MW260	01 Feb 2024	0906_MW260_240201	EM2401498	NSW_0906_PFASMGMT	<0.01		
MW260	01 Feb 2024	0906_QC101_240201	EM2401498	NSW_0906_PFASMGMT	<0.01		
MW260	01 Feb 2024	0906_QC201_240201	1065747	NSW_0906_PFASMGMT	<0.01		
MW260	19 Apr 2024	0906_MW260_240419	EM2406723	NSW_0906_PFASOMP_24	<0.01		
MW261	06 Mar 2024	0906_MW261_240304	EM2403604	NSW_0906_PFASMGMT	<0.01	Low Level LOR	
MW261	06 Mar 2024	0906_QC201_240306	1076564	NSW_0906_PFASMGMT	<0.01		
MW261	13 Mar 2024	0906_MW261_240313	EM2403958	NSW_0906_PFASMGMT	<0.01		
MW261	13 Mar 2024	0906_QC101_240313	EM2405058	NSW_0906_PFASMGMT	<0.01		
MW261	13 Mar 2024	0906_QC201_240313	1078767	NSW_0906_PFASMGMT	<0.01		
MW261	07 Nov 2024	0906_MW261_241107	ES2436595	NSW_0906_PFASMGMT_24	<0.002		
MW262	03 Oct 2024	0906_MW262_241003	ES2432686	NSW_0906_PFASMGMT_24	<0.01	Low Level LOR	
MW263	03 Oct 2024	0906_MW263_241003	ES2432686	NSW_0906_PFASMGMT_24	0.02	Low Level LOR	
MW264	03 Oct 2024	0906_MW264_241003	ES2432686	NSW_0906_PFASMGMT_24	<0.01	Low Level LOR	
MW265	03 Oct 2024	0906_MW265_241003	ES2432686	NSW_0906_PFASMGMT_24	0.01	Low Level LOR	
MW266	03 Oct 2024	0906_MW266_241003	ES2432686	NSW_0906_PFASMGMT_24	0.01	Low Level LOR	
MW267	03 Oct 2024	0906_MW267_241003	ES2432686	NSW_0906_PFASMGMT_24	0.02	Low Level LOR	
MW268	03 Oct 2024	0906_MW268_241003	ES2432686	NSW_0906_PFASMGMT_24	<0.01	Low Level LOR	
MW269	03 Oct 2024	0906_MW269_241003	ES2432686	NSW_0906_PFASMGMT_24	0.06	Low Level LOR	While PFOS concentrations have historically exceeded 0.03 µg/L, to reduce the risk of error, low level analysis will be ordered for all GW samples.
MW270	03 Oct 2024	0906_MW270_241003	ES2432686	NSW_0906_PFASMGMT_24	<0.01	Low Level LOR	
MW300	12 Jan 2018	0906_MW300_D_180112	ES1802545	NSW_0906_PFAS	<0.01	Low Level LOR	
MW300	13 Apr 2018	0906_MW300_D_180413	EM1806331	NSW_0906_PFAS	<0.01		
MW300	30 Mar 2020	0906_MW300_20200330	ES2011457	NSW_0906_PFASOMP	<0.01		
MW300	29 Sep 2020	0906_MW300_20200929	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW300	22 Apr 2021	0906_MW300_20210422	ES2116327	NSW_0906_PFASOMP	<0.01		
MW300	22 Apr 2021	0906_QC105_20210422	ES2116327	NSW_0906_PFASOMP	<0.01		
MW300	22 Apr 2021	0906_QC205_20210422	792803	NSW_0906_PFASOMP	<0.01		
MW300	20 Oct 2021	0906_MW300_20211020	ES2139228	NSW_0906_PFASOMP	<0.01		
MW300	20 Oct 2021	0906_QC106_20211020	ES2139231	NSW_0906_PFASOMP	<0.01		
MW300	20 Oct 2021	0906_QC206_211020	837704	NSW_0906_PFASOMP	<0.01		
MW300	01 May 2022	0906_MW300_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW300	01 May 2022	0906_QC102_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW300	01 May 2022	0906_QC202_220501	889634	NSW_0906_PFASOMP	<0.01		
MW300	07 Nov 2022	0906_MW300_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW300	15 Apr 2023	0906_MW300_230415	EM2306945	NSW_0906_PFASOMP	0.01		
MW300	15 Apr 2023	0906_QC103_230415	EM2306945	NSW_0906_PFASOMP	0.01		
MW300	15 Apr 2023	0906_QC203_230415	982807	NSW_0906_PFASOMP	0.02		
MW300	24 Jul 2023	0906_QC101_230724	ES2325226	NSW_0906_PFASMGMT	0.02		
MW300	14 Oct 2023	0906_MW300_231014	EM2318641	NSW_0906_PFASOMP_23	0.02		
MW300	17 Apr 2024	0906_MW300_240417	EM2406727	NSW_0906_PFASOMP_24	0.02		
MW302	12 Jan 2018	0906_MW302_D_180112	ES1802545	NSW_0906_PFAS	0.01	Low Level LOR	
MW302	11 Apr 2018	0906_MW302_D_180411	EM1806331	NSW_0906_PFAS	<0.01		
MW302	30 Mar 2020	0906_MW302_20200330	ES2011457	NSW_0906_PFASOMP	<0.01		
MW302	29 Sep 2020	0906_MW302_20200929	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW302	29 Sep 2020	0906_QC102_20200929	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW302	29 Sep 2020	0906_QC202_20200929	749220	NSW_0906_PFASOMP	<0.01		
MW302	21 Apr 2021	0906_MW302_20210421	ES2116327	NSW_0906_PFASOMP	<0.01		
MW302	21 Apr 2021	0906_QC103_20210421	ES2116327	NSW_0906_PFASOMP	<0.01		
MW302	21 Apr 2021	0906_QC203_20210421	792803	NSW_0906_PFASOMP	<0.01		
MW302	20 Oct 2021	0906_MW302_20211020	ES2139228	NSW_0906_PFASOMP	<0.01		
MW302	20 Oct 2021	0906_QC107_20211020	ES2139231	NSW_0906_PFASOMP	<0.01		
MW302	20 Oct 2021	0906_QC207_211020	837704	NSW_0906_PFASOMP	<0.01		
MW302	01 May 2022	0906_MW302_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW302	01 May 2022	0906_QC105_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW302	01 May 2022	0906_QC205_220501	889634	NSW_0906_PFASOMP	<0.01		
MW302	07 Nov 2022	0906_MW302_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW302	07 Nov 2022	0906_QC104_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW302	07 Nov 2022	0906_QC204_221107	940477	NSW_0906_PFASOMP	<0.01		
MW302	15 Apr 2023	0906_MW302_230415	EM2306945	NSW_0906_PFASOMP	<0.01		
MW302	15 Apr 2023	0906_QC104_230415	EM2306945	NSW_0906_PFASOMP	<0.01		
MW302	15 Apr 2023	0906_QC204_230415	982807	NSW_0906_PFASOMP	<0.01		
MW302	14 Oct 2023	0906_MW302_231014	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW302	14 Oct 2023	0906_QC101_231014	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW302	14 Oct 2023	0906_QC201_231014	1036478	NSW_0906_PFASOMP_23	<0.01		
MW302	16 Apr 2024	0906_QC205_240417	1090100_0906	NSW_0906_PFASOMP_24	<0.01		
MW302	17 Apr 2024	0906_MW302_240417	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW302	17 Apr 2024	0906_QC105_240417	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW304	16 Jan 2018	0906_MW304_D_180116	ES1802545	NSW_0906_PFAS	0.01	Low Level LOR	
MW304	13 Apr 2018	0906_MW304_D_180413	EM1806331	NSW_0906_PFAS	<0.01		
MW304	31 Mar 2020	0906_MW304_20200331	ES2011457	NSW_0906_PFASOMP	<0.01		
MW304	29 Sep 2020	0906_MW304_20200929	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW304	28 Apr 2021	0906_MW304_20210428	ES2116327	NSW_0906_PFASOMP	<0.01		
MW304	20 Oct 2021	0906_MW304_20211020	ES2139228	NSW_0906_PFASOMP	<0.01		
MW304	01 May 2022	0906_MW304_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW304	01 May 2022	0906_QC104_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW304	01 May 2022	0906_QC204_220501	889634	NSW_0906_PFASOMP	<0.01		
MW304	07 Nov 2022	0906_MW304_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW304	15 Apr 2023	0906_MW304_230415	EM2306945	NSW_0906_PFASOMP	<0.01		
MW304	14 Oct 2023	0906_MW304_231014	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW304	16 Apr 2024	0906_QC207_240419	1090100_0906	NSW_0906_PFASOMP_24	<0.01		
MW304	19 Apr 2024	0906_MW304_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW304	19 Apr 2024	0906_QC107_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW306	16 Jan 2018	0906_MW306_D_180116	ES1802545	NSW_0906_PFAS	<0.01		
MW306	12 Apr 2018	0906_MW306_D_180412	EM1806331	NSW_0906_PFAS	<0.01		
MW306	30 Mar 2020	0906_MW306_20200330	ES2011457	NSW_0906_PFASOMP	<0.01		

Laboratory Limit of Reporting - Assessment of Historical Concentrations

					PFAS - Perfluoroalkyl Sulfonic Acids		
					Perfluorooctane sulfonic acid (PFOS)		
					µg/L		
EQL					0.002	Proposed LOR	Comments
Location Code	Date	Field ID	Lab Report Number	Project ID			
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	1.36	Low Level LOR	
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	0.75		
MW306	29 Sep 2020	0906_MW306_20200929	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW306	22 Apr 2021	0906_MW306_20210422	ES2116327	NSW_0906_PFASOMP	<0.01		
MW306	22 Oct 2021	0906_MW306_20211022	ES2139228	NSW_0906_PFASOMP	<0.01		
MW306	02 May 2022	0906_MW306_20220502	EM2208338	NSW_0906_PFASOMP	<0.01		
MW306	07 Nov 2022	0906_MW306_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW306	14 Apr 2023	0906_MW306_230414	EM2306945	NSW_0906_PFASOMP	<0.01		
MW306	14 Apr 2023	0906_QC101_230414	EM2306945	NSW_0906_PFASOMP	<0.01		
MW306	14 Apr 2023	0906_QC201_230414	982807	NSW_0906_PFASOMP	<0.01		
MW306	18 Jul 2023	0906_QC101_20230718	EM2313057	NSW_0906_PFASOMP	<0.01		
MW306	16 Oct 2023	0906_MW306_231016	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW306	19 Apr 2024	0906_MW306_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW308	15 Jan 2018	0906_MW308_D_180115	ES1802545	NSW_0906_PFAS	<0.01	Low Level LOR	
MW308	15 Jan 2018	0906_QC103_180115	ES1802545	NSW_0906_PFAS	<0.01		
MW308	15 Jan 2018	0906_QC203_180115	581313	NSW_0906_PFAS	<0.01		
MW308	11 Apr 2018	0906_MW308_D_180411	EM1806331	NSW_0906_PFAS	<0.01		
MW308	30 Mar 2020	0906_MW308_20200330	ES2011457	NSW_0906_PFASOMP	<0.01		
MW308	29 Sep 2020	0906_MW308_20200929	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW308	21 Apr 2021	0906_MW308_20210421	ES2116327	NSW_0906_PFASOMP	<0.01		
MW308	22 Apr 2021	0906_MW308_20210422	ES2116327	NSW_0906_PFASOMP	<0.01		
MW308	21 Oct 2021	0906_MW308_20211021	ES2139228	NSW_0906_PFASOMP	<0.01		
MW308	01 May 2022	0906_MW308_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW308	01 May 2022	0906_QC103_20220501	EM2208338	NSW_0906_PFASOMP	<0.01		
MW308	01 May 2022	0906_QC203_220501	889634	NSW_0906_PFASOMP	<0.01		
MW308	07 Nov 2022	0906_MW308_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW308	07 Nov 2022	0906_QC105_221107	EM2222404	NSW_0906_PFASOMP	<0.01		
MW308	07 Nov 2022	0906_QC205_221107	940477	NSW_0906_PFASOMP	<0.01		
MW308	17 Apr 2023	0906_MW308_230417	EM2306945	NSW_0906_PFASOMP	<0.01		
MW308	17 Apr 2023	0906_QC106_230417	EM2306945	NSW_0906_PFASOMP	<0.01		
MW308	17 Apr 2023	0906_QC206_230417	982807	NSW_0906_PFASOMP	<0.01		
MW308	14 Oct 2023	0906_MW308_231014	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW308	17 Apr 2024	0906_MW308_240417	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW309	21 Apr 2021	0906_MW309_20210421	ES2116327	NSW_0906_PFASOMP	0.04		
MW310	16 Jan 2018	0906_MW310_D_180116	ES1802545	NSW_0906_PFAS	<0.01	Low Level LOR	
MW310	12 Apr 2018	0906_MW310_D_180412	EM1806331	NSW_0906_PFAS	<0.01		
MW310	31 Mar 2020	0906_MW310_20200331	ES2011457	NSW_0906_PFASOMP	<0.01		
MW310	30 Sep 2020	0906_MW310_20200930	ES2034862-AB	NSW_0906_PFASOMP	<0.01		
MW310	22 Apr 2021	0906_MW310_20210422	ES2116327	NSW_0906_PFASOMP	<0.01		
MW310	22 Oct 2021	0906_MW310_20211022	ES2139228	NSW_0906_PFASOMP	<0.01		
MW310	02 May 2022	0906_MW310_20220502	EM2208338	NSW_0906_PFASOMP	<0.01		
MW310	08 Nov 2022	0906_MW310_221108	EM2222404	NSW_0906_PFASOMP	<0.01		
MW310	13 Apr 2023	0906_MW310_230413	EM2306945	NSW_0906_PFASOMP	<0.01		
MW310	17 Oct 2023	0906_MW310_231017	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW310	16 Apr 2024	0906_QC209_240419	1090100_0906	NSW_0906_PFASOMP_24	<0.01		
MW310	19 Apr 2024	0906_MW310_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW310	19 Apr 2024	0906_QC109_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW311	15 Jan 2018	0906_MW311_I_180115	ES1802545	NSW_0906_PFAS	0.01	Low Level LOR	
MW311	15 Jan 2018	0906_QC101_180115	ES1802545	NSW_0906_PFAS	<0.01		
MW311	15 Jan 2018	0906_QC201_180115	581313	NSW_0906_PFAS	<0.01		
MW311	31 Mar 2020	0906_MW311_20200331	ES2011457	NSW_0906_PFASOMP	<0.01		
MW311	08 Nov 2022	0906_MW311_221108	EM2222404	NSW_0906_PFASOMP	<0.01		
MW311	13 Apr 2023	0906_MW311_230413	EM2306945	NSW_0906_PFASOMP	<0.01		
MW311	17 Oct 2023	0906_MW311_231017	EM2318641	NSW_0906_PFASOMP_23	<0.01		
MW311	16 Apr 2024	0906_QC208_240419	1090100_0906	NSW_0906_PFASOMP_24	<0.01		
MW311	19 Apr 2024	0906_MW311_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW311	19 Apr 2024	0906_QC108_240419	EM2406727	NSW_0906_PFASOMP_24	<0.01		
MW312	16 Jan 2018	0906_MW312_D_180115	ES1802566	NSW_0906_PFAS	0.02	Low Level LOR	
MW312	13 Apr 2018	0906_MW312_D_180413	EM1806331	NSW_0906_PFAS	0.02		
MW312	01 Apr 2020	0906_MW312_200401	ES2011454	NSW_0906_PFASOMP	0.01		
MW312	01 Oct 2020	0906_MW312_20201001	ES2034888	NSW_0906_PFASOMP	0.01		
MW312	21 Oct 2021	0906_MW312_20211021	ES2139399	NSW_0906_PFASOMP	0.01		
MW312	03 May 2022	0906_MW312_20220503	EM2208339	NSW_0906_PFASOMP	<0.01		
MW312	08 Nov 2022	0906_MW312_221108	EM2222499	NSW_0906_PFASOMP	<0.01		
MW312	17 Apr 2023	0906_MW312_230417	EM2306923	NSW_0906_PFASOMP	<0.01		
MW312	13 Oct 2023	0906_MW312_231013	EM2318618	NSW_0906_PFASOMP_23	<0.01		
MW312	19 Apr 2024	0906_MW312_240419	EM2406728	NSW_0906_PFASOMP_24	<0.01		
SW104	04 Dec 2017	0906_SW104_171204	ES1731266	NSW_0906_PFAS	0.27		
SW104	16 Aug 2018	0906_SW104_180816	ES1824412	NSW_0906_PFAS	0.05		
SW104	17 Oct 2018	0906_SW104_181017	ES1831100	NSW_0906_PFAS	0.38		
SW104	05 Mar 2020	0906_SW104A_200305	ES2008016	NSW_0906_PFASMGMT	0.23		
SW104	05 Mar 2020	0906_SW104B_200305	ES2008016	NSW_0906_PFASMGMT	0.21		
SW104	25 Mar 2020	0906_SW104_20200325	ES2011457	NSW_0906_PFASOMP	0.09		
SW104	02 Sep 2020	0906_SW104_200904	ES2031377	NSW_0906_PFASMGMT	2.83		
SW104	04 Sep 2020	0906_QC201_200904	742937	NSW_0906_PFASMGMT	2.3		
SW104	29 Sep 2020	0906_SW104_20200929	ES2034862-AB	NSW_0906_PFASOMP	2.8		
SW104	21 Apr 2021	0906_QC102_20210421	ES2116327	NSW_0906_PFASOMP	0.26		
SW104	21 Apr 2021	0906_QC202_20210421	792803	NSW_0906_PFASOMP	0.27		
SW104	21 Apr 2021	0906_SW104_20210421	ES2116327	NSW_0906_PFASOMP	0.28		
SW104	20 Oct 2021	0906_QC105_20211020	ES2139231	NSW_0906_PFASOMP	0.4		
SW104	20 Oct 2021	0906_QC205_211020	837704	NSW_0906_PFASOMP	0.61		
SW104	21 Oct 2021	0906_SW104_20211020	ES2139228	NSW_0906_PFASOMP	0.41		
SW104	04 Nov 2021	0906_SW104_211104	EM2122139	NSW_0906_PFASMGMT	0.29		
SW104	04 Nov 2021	0906_SW104_211104	EM2122139	NSW_0906_PFASMGMT	0.22		
SW104	05 Nov 2021	0906_SW104_211105	EM2122139	NSW_0906_PFASMGMT	1.08		
SW104	12 Nov 2021	SW104 211112	EM2123445	NSW_0906_PFASMGMT	0.15		
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	0.05		
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	0.07		
SW104	06 Jan 2022	0906_SW104_A_220106	EM2200220	NSW_0906_PFASMGMT	0.09		
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	0.05		
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	0.08		
SW104	06 Jan 2022	0906_SW104_B_220106	EM2200220	NSW_0906_PFASMGMT	0.03		
SW104	07 Jan 2022	0906_SW104_A_220107	EM2200220	NSW_0906_PFASMGMT	1.08		
SW104	07 Jan 2022	0906_SW104_B_220107	EM2200220	NSW_0906_PFASMGMT	1.01		
SW104	28 Jan 2022	0906_QC101_220128	EM2201724	NSW_0906_PFASMGMT	0.48		
SW104	28 Jan 2022	0906_QC201_220128	863526	NSW_0906_PFASMGMT	0.66		
SW104	28 Jan 2022	0906_SW104_2202128	EM2201724	NSW_0906_PFASMGMT	0.49		
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	0.15		
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	0.15		
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	0.25		
SW104	29 Jan 2022	0906_SW104_2202129	EM2201724	NSW_0906_PFASMGMT	0.53		
SW104	24 Feb 2022	0906_QC101_220224	EM2203982	NSW_0906_PFASMGMT	0.14		
SW104	24 Feb 2022	0906_QC201_220224	874294	NSW_0906_PFASMGMT	<0.01		
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	0.12		
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	0.14		
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	0.11		
SW104	24 Feb 2022	0906_SW104_220224	EM2203982	NSW_0906_PFASMGMT	0.08		
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	0.06		
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	0.1		
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	0.14		
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	0.12		
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	0.14		
SW104	25 Feb 2022	0906_SW104_220225	EM2203982	NSW_0906_PFASMGMT	0.13		
SW104	01 Mar 2022	0906_QC101_220301	ES2207607	NSW_0906_PFASMGMT	0.03		
SW104	01 Mar 2022	0906_QC201_220301	869264	NSW_0906_PFASMGMT	0.05		
SW104	01 Mar 2022	0906_SW104A_220228	ES2207607	NSW_0906_PFASMGMT	0.28		
SW104	01 Mar 2022	0906_SW104B_220228	ES2207607	NSW_0906_PFASMGMT	0.02		
SW104	07 Apr 2022	0906_QC102_220407	EM2206603	NSW_0906_PFASMGMT	0.08		
SW104	07 Apr 2022	0906_QC202_220407	881789	NSW_0906_PFASMGMT	0.15		
SW104	07 Apr 2022	0906_SW104_2204071150	EM2206603	NSW_0906_PFASMGMT	0.14		
SW104	08 Apr 2022	0906_QC101_220408	ES2214067	NSW_0906_PFASMGMT	0.09		
SW104	08 Apr 2022	0906_SW104_220408	ES2214067	NSW_0906_PFASMGMT	0.08		
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	0.3		
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	0.29		
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	0.13		
SW104	09 Apr 2022	0906_SW104_220409	ES2214067	NSW_0906_PFASMGMT	0.15	Standard LOR	
SW104	27 Apr 2022	0906_QC101_220427	EM2208480	NSW_0906_PFASMGMT	0.38		
SW104	27 Apr 2022	0906_QC201_220427	889312	NSW_0906_PFASMGMT	0.43		
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	0.7		
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	0.34		
SW104	27 Apr 2022	0906_SW104_220427	EM2208480	NSW_0906_PFASMGMT	0.6		
SW104	28 Apr 2022	0906_SW104_220428	EM2208480	NSW_0906_PFASMGMT	0.55		
SW104	28 Apr 2022	0906_SW104_220428	EM2208480	NSW_0906_PFASMGMT	0.3		
SW104	01 May 2022	0906_QC101_20220501	EM2208338	NSW_0906_PFASOMP	0.58		
SW104	01 May 2022	0906_QC201_220501	889634	NSW_0906_PFASOMP	0.83		
SW104	01 May 2022	0906_SW104_20220501	EM2208338	NSW_0906_PFASOMP	0.63		
SW104	12 May 2022	0906_QC101_220512	EM2210029	NSW_0906_PFASMGMT	0.1		
SW104	12 May 2022	0906_QC201_220512	893019	NSW_0906_PFASMGMT	0.09		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.27		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.09		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.06		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.12		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.08		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.16		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.08		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.09		
SW104	12 May 2022	0906_SW104_220512	EM2210029	NSW_0906_PFASMGMT	0.1		
SW104	13 May 2022	0906_SW104_220513	EM2210029	NSW_0906_PFASMGMT	0.36		
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	0.08		
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	0.08		
SW104	26 May 2022	0906_SW104_260522	EM2210980	NSW_0906_PFASMGMT	0.14		
SW104	27 May 2022	0906_SW104_270522	EM2210980	NSW_0906_PFASMGMT	0.16		
SW104	27 May 2022	0906_SW104_270522	EM2210980	NSW_0906_PFASMGMT	0.14		
SW104	17 Jul 2022	0906_QC201_220717	912183	NSW_0906_PFASMGMT	0.08		
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	0.23		
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	0.19		

Laboratory Limit of Reporting - Assessment of Historical Concentrations

					PFAS - Perfluoroalkyl Sulfonic Acids		
					Perfluorooctane sulfonic acid (PFOS)		
					µg/L		
EQL					0.002	Proposed LOR	Comments
Location Code	Date	Field ID	Lab Report Number	Project ID			
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	1.36		
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	0.75		
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	0.25		
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	0.08		
SW104	17 Jul 2022	0906_SW104_220717	EM2214731	NSW_0906_PFASMGMT	0.11		
SW104	31 Jul 2022	0906_SW104_220731	EM2215110	NSW_0906_PFASMGMT	0.25		
SW104	01 Aug 2022	0906_QC101_220801	EM2215110	NSW_0906_PFASMGMT	0.05		
SW104	01 Aug 2022	0906_QC201_220801	913049	NSW_0906_PFASMGMT	0.07		
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	0.08		
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	0.07		
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	0.05		
SW104	01 Aug 2022	0906_SW104_220801	EM2215110	NSW_0906_PFASMGMT	0.12		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.26		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.08		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.05		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.12		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.08		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.11		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.24		
SW104	04 Aug 2022	0906_SW104_220804	EM2215110	NSW_0906_PFASMGMT	0.57		
SW104	05 Aug 2022	0906_QC101_220805	EM2215110	NSW_0906_PFASMGMT	0.06		
SW104	05 Aug 2022	0906_QC201_220805	913049	NSW_0906_PFASMGMT	0.07		
SW104	05 Nov 2022	0906_QC102_221105	EM2222404	NSW_0906_PFASOMP	3.19		
SW104	05 Nov 2022	0906_QC202_221105	940477	NSW_0906_PFASOMP	3.1		
SW104	05 Nov 2022	0906_SW104_221105	EM2222404	NSW_0906_PFASOMP	3.34		
SW104	15 Apr 2023	0906_QC102_230415	EM2306945	NSW_0906_PFASOMP	1.98		
SW104	15 Apr 2023	0906_QC202_230415	982807	NSW_0906_PFASOMP	3		
SW104	15 Apr 2023	0906_SW104_230415	EM2306945	NSW_0906_PFASOMP	2.03		
SW104	14 Oct 2023	0906_SW104_231014	EM2318641	NSW_0906_PFASOMP_23	0.3		
SW104	20 Apr 2024	0906_SW104_240420	EM2406727	NSW_0906_PFASOMP_24	0.11		
SW206	20 Jun 2017	0906_SW001_170620	ES1715334	NSW_0906_PFAS	0.23	Standard LOR	
SW206	07 Jul 2017	0906_SW001_07072017	ES1716880	NSW_0906_PFAS	0.27		
SW206	13 Dec 2017	0906_SW206_171213	ES1732701	NSW_0906_PFAS	0.57		
SW206	25 Mar 2020	0906_SW206_20200325	ES2011453	NSW_0906_PFASOMP	0.38		
SW206	01 Oct 2020	0906_SW206_20201001	ES2034866	NSW_0906_PFASOMP	1.21		
SW206	20 Apr 2021	0906_SW206_20210420	ES2116333	NSW_0906_PFASOMP	0.13		
SW206	21 Oct 2021	0906_SW206_20211021	ES2139237	NSW_0906_PFASOMP	0.01		
SW206	03 May 2022	0906_SW206_20220503	EM2208150	NSW_0906_PFASOMP	0.15		
SW206	04 Nov 2022	0906_SW206_20221104	EM2222399	NSW_0906_PFASOMP	2.01		
SW206	13 Apr 2023	0906_SW206_230413	EM2306921	NSW_0906_PFASOMP_23	1.05		
SW206	16 Oct 2023	0906_SW206_231016	EM2318614	NSW_0906_PFASOMP_23	0.1		
SW206	17 Apr 2024	0906_SW206_240417	EM2406730	NSW_0906_PFASOMP_24	0.19		
SW212	11 Dec 2017	0906_SW212_171211	ES1731989	NSW_0906_PFAS	*<0.01*	Low Level LOR	This location is in the Murrumbidgee River, a drinking water source.
SW212	18 Jun 2018	0906_SW212_180619	ES1818232	NSW_0906_PFAS	*<0.01*		
SW212	15 Aug 2019	0906_SW212_190815	ES1926282	NSW_0906_PFAS	*<0.01*		
SW212	27 Mar 2020	0906_SW212_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW212	30 Sep 2020	0906_SW212_20200930	ES2034866	NSW_0906_PFASOMP	0.09		
SW212	30 Sep 2020	0906_SW212_20200930 Dup	ES2034866	NSW_0906_PFASOMP	*<0.01*		
SW212	19 Nov 2020	0906_QC101_201119	ES2041395	NSW_0906_PFASMGMT	*<0.01*		
SW212	19 Nov 2020	0906_QC201_201119	759380	NSW_0906_PFASMGMT	*<0.01*		
SW212	19 Nov 2020	0906_SW212_201119	ES2041395	NSW_0906_PFASMGMT	*<0.01*		
SW212	23 Apr 2021	0906_SW212_20210423	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW212	19 Oct 2021	0906_SW212_20211019	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW212	03 May 2022	0906_SW212_20220503	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW212	13 Apr 2023	0906_SW212_230413	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW212	15 Oct 2023	0906_SW212_231015	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW212	20 Apr 2024	0906_SW212_240420	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW218	17 Jan 2018	0906_SW218_180117	ES1802545	NSW_0906_PFAS	*<0.01*	Standard LOR	While recent PFOS concentrations were below standard LOR, this location is the discharge from the stormwater drain that runs from the Forest Hill Rural Fire service area. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW218	25 Mar 2020	0906_SW218_20200325	ES2011453	NSW_0906_PFASOMP	0.03		
SW218	01 Oct 2020	0906_QC104_20201001	ES2034866	NSW_0906_PFASOMP	0.06		
SW218	01 Oct 2020	0906_SW218_20201001	ES2034866	NSW_0906_PFASOMP	0.1		
SW218	20 Apr 2021	0906_SW218_20210420	ES2116333	NSW_0906_PFASOMP	0.01		
SW218	21 Oct 2021	0906_SW218_20211021	ES2139237	NSW_0906_PFASOMP	0.27		
SW218	03 May 2022	0906_SW218_20220503	EM2208150	NSW_0906_PFASOMP	0.24		
SW218	04 Nov 2022	0906_SW218_20221104	EM2222399	NSW_0906_PFASOMP	0.63		
SW218	13 Apr 2023	0906_SW218_230413	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW218	13 Apr 2023	0906_SW218_230413	EM2307789	NSW_0906_PFASOMP	*<0.02*		
SW218	16 Oct 2023	0906_SW218_231016	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW218	17 Apr 2024	0906_SW218_240417	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW228	07 Dec 2017	0906_SW228_171207	ES1731266	NSW_0906_PFAS	2.9	Standard LOR	
SW228	12 Apr 2018	0906_SW228_180412	EM1806331	NSW_0906_PFAS	0.3		
SW228	07 Aug 2018	0906_SW228_A_180807	EM1812664	NSW_0906_PFAS	0.49		
SW228	07 Aug 2018	0906_SW228_B_180807	EM1812664	NSW_0906_PFAS	0.49		
SW228	04 Apr 2019	0906_QC101_190408	ES1911335	NSW_0906_PFAS	0.81		
SW228	04 Apr 2019	0906_QC201_190408	650878	NSW_0906_PFAS	0.6		
SW228	04 Apr 2019	0906_SW228_190408	ES1911335	NSW_0906_PFAS	0.77		
SW228	27 Mar 2020	0906_QC102_20200327	ES2011453	NSW_0906_PFASOMP	0.77		
SW228	27 Mar 2020	0906_QC202_20200327	712445	NSW_0906_PFASOMP	0.63		
SW228	27 Mar 2020	0906_SW228_20200327	ES2011453	NSW_0906_PFASOMP	0.73		
SW228	01 Oct 2020	0906_SW228_20201001	ES2034866	NSW_0906_PFASOMP	2.15		
SW228	27 Apr 2021	0906_SW228_20210427	ES2116333	NSW_0906_PFASOMP	1.1		
SW228	21 Oct 2021	0906_SW228_20211021	ES2139237	NSW_0906_PFASOMP	1.41		
SW228	03 May 2022	0906_SW228_20220503	EM2208150	NSW_0906_PFASOMP	0.86		
SW228	09 Nov 2022	0906_SW228_20221109	EM2222399	NSW_0906_PFASOMP	1.17		
SW228	17 Apr 2023	0906_SW228_230417	EM2306921	NSW_0906_PFASOMP_23	1.08		
SW228	16 Oct 2023	0906_SW228_231016	EM2318614	NSW_0906_PFASOMP_23	1.03		
SW228	19 Apr 2024	0906_SW228_240419	EM2406730	NSW_0906_PFASOMP_24	0.68		
SW234	11 Dec 2017	0906_SW234_171211	ES1731989	NSW_0906_PFAS	0.22	Standard LOR	While the majority of PFOS concentrations have been below 0.03 ug/L, this location is in Marshalls Creek, downstream of the Gumly Gumly Wetland. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW234	18 Jun 2018	0906_SW234_180618	ES1818232	NSW_0906_PFAS	0.01		
SW234	27 Mar 2020	0906_SW234_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW234	29 Sep 2020	0906_SW234_20200929	ES2034866	NSW_0906_PFASOMP	0.28		
SW234	20 Apr 2021	0906_SW234_20210420	ES2116333	NSW_0906_PFASOMP	0.02		
SW234	19 Oct 2021	0906_SW234_20211019	ES2139237	NSW_0906_PFASOMP	0.04		
SW234	02 May 2022	0906_QC107_20220502	EM2208150	NSW_0906_PFASOMP	0.02		
SW234	02 May 2022	0906_SW234_20220502	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW234	03 May 2022	0906_QC207_220502	889634	NSW_0906_PFASOMP	0.02		
SW234	08 Nov 2022	0906_SW234_20221108	EM2222399	NSW_0906_PFASOMP	0.02		
SW234	13 Apr 2023	0906_SW234_ 230413	EM2306921	NSW_0906_PFASOMP_23	0.16		
SW234	13 Apr 2023	0906_SW234_230413	EM2307789	NSW_0906_PFASOMP	0.15		
SW234	15 Oct 2023	0906_SW234_231015	EM2318614	NSW_0906_PFASOMP_23	0.02		
SW234	18 Apr 2024	0906_SW234_240418	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW236	15 Dec 2017	0906_SW236_171215	ES1732819	NSW_0906_PFAS	*<0.01*	Standard LOR	While all PFOS concentrations have been below the standard LOR, this location is in Kyeamba Creek. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW236	02 Oct 2020	0906_SW236_20201002	ES2034866	NSW_0906_PFASOMP	*<0.01*		
SW236	22 Apr 2021	0906_SW236_20210422	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW236	22 Oct 2021	0906_SW236_20211022	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW236	03 May 2022	0906_SW236_20220503	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW236	04 Nov 2022	0906_SW236_20221104	EM2222399	NSW_0906_PFASOMP	*<0.01*		
SW236	14 Apr 2023	0906_SW236_230414	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW236	14 Oct 2023	0906_QC103_231014	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW236	14 Oct 2023	0906_QC203_231014	1036481	NSW_0906_PFASOMP_23	*<0.01*		
SW236	14 Oct 2023	0906_SW236_231014	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW236	18 Apr 2024	0906_SW236_240418	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW240	20 Dec 2017	0906_QC101_171220	ES1732819	NSW_0906_PFAS	*<0.01*	Standard LOR	While all PFOS concentrations have been below the standard LOR, this location is in Kyeamba Creek. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW240	20 Dec 2017	0906_QC201_171220	580967	NSW_0906_PFAS	*<0.01*		
SW240	20 Dec 2017	0906_QC201_171220	ES1732819	NSW_0906_PFAS	*<0.01*		
SW240	20 Dec 2017	0906_SW240_171220	ES1732819	NSW_0906_PFAS	*<0.01*		
SW240	02 Oct 2020	0906_SW240_20201002	ES2034866	NSW_0906_PFASOMP	*<0.01*		
SW240	22 Apr 2021	0906_SW240_20210422	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW240	22 Oct 2021	0906_SW240_20211022	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW240	03 May 2022	0906_SW240_20220503	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW240	04 Nov 2022	0906_SW240_20221104	EM2222399	NSW_0906_PFASOMP	0.01		
SW240	14 Apr 2023	0906_SW240_230414	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW240	14 Oct 2023	0906_SW240_231014	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW240	18 Apr 2024	0906_SW240_240418	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW261	16 Jan 2018	0906_SW261_180116	ES1802545	NSW_0906_PFAS	*<0.01*	Low Level LOR	This location is in the Murrumbidgee River, a drinking water source.
SW261	03 Apr 2018	0906_SW261_180403	ES1810698	NSW_0906_PFAS	*<0.01*		
SW261	18 Jun 2018	0906_SW261_180618	ES1818232	NSW_0906_PFAS	*<0.01*		
SW261	15 Aug 2019	0906_SW261_190815	ES1926282	NSW_0906_PFAS	*<0.01*		
SW261	27 Mar 2020	0906_SW261_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW261	28 Sep 2020	0906_SW261_20200928	ES2034866	NSW_0906_PFASOMP	*<0.01*		
SW261	20 Apr 2021	0906_SW261_20210420	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW261	19 Oct 2021	0906_QC103_20211019	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW261	19 Oct 2021	0906_QC203_20211019	842903	NSW_0906_PFASOMP	*<0.01*		
SW261	19 Oct 2021	0906_SW261_20211019	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW261	28 Apr 2022	0906_SW261_20220428	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW261	17 Apr 2023	0906_QC105_230417	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW261	17 Apr 2023	0906_QC205_230417	982766	NSW_0906_PFASOMP_23	*<0.01*		
SW261	17 Apr 2023	0906_SW261_230417	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW261	15 Oct 2023	0906_SW261_231015	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW261	16 Apr 2024	0906_QC103_240416	EM2406727	NSW_0906_PFASOMP_24	*<0.01*		
SW261	16 Apr 2024	0906_QC203_240416	1090100_0906	NSW_0906_PFASOMP_24	*<0.01*		
SW261	16 Apr 2024	0906_SW261_240416	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW262	16 Jan 2018	0906_SW262_180116	ES1802545	NSW_0906_PFAS	*<0.01*	Standard LOR	While the majority of PFOS concentrations have been below 0.03 ug/L, this location is in Marshalls Creek, downstream of the Gumly Gumly Wetland. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW262	18 Jun 2018	0906_SW262_180618	ES1818232	NSW_0906_PFAS	0.01		
SW262	27 Mar 2020	0906_SW262_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW262	28 Sep 2020	0906_SW262_20200928	ES2034866	NSW_0906_PFASOMP	0.05		
SW262	20 Apr 2021	0906_SW262_20210420	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW262	19 Oct 2021	0906_SW262_20211019	ES2139237	NSW_0906_PFASOMP	0.01		
SW262	28 Apr 2022	0906_SW262_20220428	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW262	08 Nov 2022	0906_SW262_20221108	EM2222399	NSW_0906_PFASOMP	*<0.01*		
SW262	17 Apr 2023	0906_SW262_230417	EM2306921	NSW_0906_PFASOMP_23	0.05		
SW262	17 Apr 2023	0906_SW262_230417	EM2307789	NSW_0906_PFASOMP	0.04		
SW262	15 Oct 2023	0906_SW262_231015	EM2318614	NSW_0906_PFASOMP_23	0.02		
SW262	16 Apr 2024	0906_SW262_240416	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW286	08 Apr 2018	0906_SW286_180408	ES1810698	NSW_0906_PFAS	*<0.01*		
SW286	15 Aug 2019	0906_SW286_190815	ES1926282	NSW_0906_PFAS	*<0.01*		

Laboratory Limit of Reporting - Assessment of Historical Concentrations

					PFAS - Perfluoroalkyl Sulfonic Acids		
					Perfluorooctane sulfonic acid (PFOS)		
					µg/L		
EQL					0.002	Proposed LOR	Comments
Location Code	Date	Field ID	Lab Report Number	Project ID			
MW200	07 Jul 2017	0906_GW200_D_07072017	ES1716876	NSW_0906_PFAS	1.36		
MW200	25 Mar 2020	0906_MW200_20200331	ES2011455	NSW_0906_PFASOMP	0.75		
SW286	27 Mar 2020	0906_SW286_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW286	02 Oct 2020	0906_SW286_20201002	ES2034866	NSW_0906_PFASOMP	*<0.01*		
SW286	22 Apr 2021	0906_SW286_20210422	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW286	22 Oct 2021	0906_SW286_20211022	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW286	03 May 2022	0906_SW286_20220503	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW286	08 Nov 2022	0906_SW286_20221108	EM2222399	NSW_0906_PFASOMP	*<0.01*	Low Level LOR	This location is in the Murrumbidgee River, a drinking water source.
SW286	17 Apr 2023	0906_SW286_230417	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW286	14 Oct 2023	0906_QC104_231014	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW286	14 Oct 2023	0906_QC204_231014	1036481	NSW_0906_PFASOMP_23	*<0.01*		
SW286	14 Oct 2023	0906_SW286_231014	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW286	16 Apr 2024	0906_QC206_240418	1090100_0906	NSW_0906_PFASOMP_24	*<0.01*		
SW286	18 Apr 2024	0906_QC106_240418	EM2406727	NSW_0906_PFASOMP_24	*<0.01*		
SW286	18 Apr 2024	0906_SW286_240418	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW288	12 Apr 2018	0906_SW288_180412	EM1806331	NSW_0906_PFAS	*<0.01*		
SW288	15 Aug 2018	0906_SW288_180815	ES1824412	NSW_0906_PFAS	*<0.01*		
SW288	16 Aug 2018	0906_QC101_180816	ES1824412	NSW_0906_PFAS	*<0.01*		
SW288	16 Aug 2018	0906_QC201_180816	613110	NSW_0906_PFAS	*<0.01*		
SW288	16 Aug 2018	0906_SW288_180816	ES1824412	NSW_0906_PFAS	*<0.01*		
SW288	04 Apr 2019	0906_SW288_190408	ES1911335	NSW_0906_PFAS	*<0.01*		
SW288	27 Mar 2020	0906_SW288_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW288	01 Oct 2020	0906_SW288_20201001	ES2034866	NSW_0906_PFASOMP	*<0.01*	Standard LOR	While PFOS concentrations have generally been below the standard LOR, this location is at the Forest Hill Sewage Treatment Plant. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW288	27 Apr 2021	0906_SW288_20210427	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW288	21 Oct 2021	0906_SW288_20211021	ES2139237	NSW_0906_PFASOMP	*<0.01*		
SW288	03 May 2022	0906_SW288_20220503	EM2208150	NSW_0906_PFASOMP	*<0.01*		
SW288	09 Nov 2022	0906_SW288_20221109	EM2222399	NSW_0906_PFASOMP	0.02		
SW288	17 Apr 2023	0906_SW288_230417	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW288	16 Oct 2023	0906_SW288_231016	EM2318614	NSW_0906_PFASOMP_23	*<0.01*		
SW288	19 Apr 2024	0906_SW288_240419	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW289	12 Apr 2018	0906_QC101_180412	EM1806331	NSW_0906_PFAS	0.21		
SW289	12 Apr 2018	0906_QC201_180412	594506	NSW_0906_PFAS	0.18		
SW289	12 Apr 2018	0906_SW289_180412	EM1806331	NSW_0906_PFAS	0.2		
SW289	04 Apr 2019	0906_SW289_190408	ES1911335	NSW_0906_PFAS	0.42		
SW289	27 Mar 2020	0906_SW289_20200327	ES2011453	NSW_0906_PFASOMP	0.79		
SW289	01 Oct 2020	0906_SW289_20201001	ES2034866	NSW_0906_PFASOMP	0.05		
SW289	27 Apr 2021	0906_SW289_20210427	ES2116333	NSW_0906_PFASOMP	0.24	Standard LOR	
SW289	21 Oct 2021	0906_SW289_20211021	ES2139237	NSW_0906_PFASOMP	1.15		
SW289	03 May 2022	0906_SW289_20220503	EM2208150	NSW_0906_PFASOMP	0.65		
SW289	09 Nov 2022	0906_SW289_20221109	EM2222399	NSW_0906_PFASOMP	1.54		
SW289	17 Apr 2023	0906_SW289_230417	EM2306921	NSW_0906_PFASOMP_23	1.03		
SW289	16 Oct 2023	0906_SW289_231016	EM2318614	NSW_0906_PFASOMP_23	0.98		
SW289	19 Apr 2024	0906_SW289_240419	EM2406730	NSW_0906_PFASOMP_24	0.54		
SW294	18 Jun 2018	0906_SW294_180618	ES1818232	NSW_0906_PFAS	0.01		
SW294	15 Aug 2019	0906_SW294_190815	ES1926282	NSW_0906_PFAS	*<0.01*		
SW294	27 Mar 2020	0906_SW294_20200327	ES2011453	NSW_0906_PFASOMP	*<0.01*		
SW294	28 Sep 2020	0906_SW294_20200928	ES2034866	NSW_0906_PFASOMP	0.02		
SW294	20 Apr 2021	0906_SW294_20210420	ES2116333	NSW_0906_PFASOMP	*<0.01*		
SW294	19 Oct 2021	0906_SW294_20211019	ES2139237	NSW_0906_PFASOMP	0.01		
SW294	28 Apr 2022	0906_SW294_20220428	EM2208150	NSW_0906_PFASOMP	*<0.01*	Standard LOR	While the majority of PFOS concentrations have been below 0.03 ug/L, this location is in Marshalls Creek, downstream of the Gumly Gumly Wetland. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.
SW294	13 Apr 2023	0906_SW294_230413	EM2306921	NSW_0906_PFASOMP_23	*<0.01*		
SW294	15 Oct 2023	0906_SW294_231015	EM2318614	NSW_0906_PFASOMP_23	0.01		
SW294	16 Apr 2024	0906_SW294_240416	EM2406730	NSW_0906_PFASOMP_24	0.01		
SW309	15 Aug 2019	0906_SW309_190815	ES1926282	NSW_0906_PFAS	*<0.01*		
SW309	27 Mar 2020	0906_SW309_20200327	ES2011459	NSW_0906_PFASOMP	*<0.01*		
SW309	28 Sep 2020	0906_SW309_20200928	ES2034885	NSW_0906_PFASOMP	*<0.01*		
SW309	20 Apr 2021	0906_SW309_20210420	ES2116324	NSW_0906_PFASOMP	*<0.01*		
SW309	19 Oct 2021	0906_SW309_20211019	ES2139303	NSW_0906_PFASOMP	*<0.01*		
SW309	02 May 2022	0906_SW309_20220502	EM2208334	NSW_0906_PFASOMP	*<0.01*	Low Level LOR	This location is in the Murrumbidgee River, a drinking water source.
SW309	08 Nov 2022	0906_SW309_221108	EM2222397	NSW_0906_PFASOMP	*<0.01*		
SW309	14 Apr 2023	0906_SW309_230414	EM2306919	NSW_0906_PFASOMP	*<0.01*		
SW309	22 Aug 2023	SW309	EM2315195	NSW_0906_PFASMGMT	*<0.01*		
SW309	12 Oct 2023	0906_SW309_231012	EM2318611	NSW_0906_PFASOMP_23	*<0.01*		
SW309	15 Apr 2024	0906_SW309_240415	EM2406730	NSW_0906_PFASOMP_24	*<0.01*		
SW310	27 Mar 2020	0906_SW310_20200327	ES2011453	NSW_0906_PFASOMP	0.58		
SW310	29 Sep 2020	0906_SW310_20200929	ES2034866	NSW_0906_PFASOMP	1.6		
SW310	21 Apr 2021	0906_QC104_20210421	ES2116333	NSW_0906_PFASOMP	0.92		
SW310	21 Apr 2021	0906_QC204_20210421	792774	NSW_0906_PFASOMP	1		
SW310	21 Apr 2021	0906_SW310_20210421	ES2116333	NSW_0906_PFASOMP	0.85		
SW310	19 Oct 2021	0906_SW310_20211019	ES2139237	NSW_0906_PFASOMP	1.21		
SW310	30 Apr 2022	0906_SW310_20220430	EM2208150	NSW_0906_PFASOMP	0.04	Standard LOR	
SW310	04 Nov 2022	0906_QC101_20221104	EM2222399	NSW_0906_PFASOMP	0.48		
SW310	04 Nov 2022	0906_QC201_221104	940477	NSW_0906_PFASOMP	0.71		
SW310	04 Nov 2022	0906_SW310_20221104	EM2222399	NSW_0906_PFASOMP	0.55		
SW310	14 Apr 2023	0906_SW310_230414	EM2306921	NSW_0906_PFASOMP_23	1.48		
SW310	14 Apr 2023	0906_SW310_230414	EM2307789	NSW_0906_PFASOMP	1.31		
SW310	16 Oct 2023	0906_SW310_231016	EM2318614	NSW_0906_PFASOMP_23	0.63		
SW310	17 Apr 2024	0906_SW310_240417	EM2406730	NSW_0906_PFASOMP_24	0.26		
SW311	16 Aug 2023	0906_SW311_230816	EM2314805	NSW_0906_PFASMGMT	0.02		
SW311	13 Mar 2024	0906_MCREEK_240313	EM2403958	NSW_0906_PFASMGMT	*<0.01*	Standard LOR	While both PFOS concentrations have been below 0.03 ug/L, this location is in Marshalls Creek, downstream of the Gumly Gumly Wetland. Comparison of results to the Draft Drinking Water Guideline Value for PFOS is not considered necessary at this location.

Appendix D. Cardno (2024b). RAAF Base Wagga; PFAS OMP Factual Report – Biannual Sampling Event – April 2024

PFAS OMP Factual Report

Biannual Sampling Event April 2024

RAAF Base Wagga

DEF19008

Prepared for
Department of Defence

10 July 2024

Cardno
now
Stantec

Contact Information

Cardno Victoria Pty Ltd
ABN 47 106 610 913

Level 28, 600 Bourke
Street Melbourne Vic 3000
Australia

www.cardno.com
Phone +61 3 8415 7777
Fax +61 3 8415 7788

Document Information

Prepared for	Department of Defence
Project Name	PFAS OMP Factual Report
File Reference	OMP002_Wagga_E9 FactualReport_RevC.docx
Job Reference	DEF19008
Date	10 July 2024
Version Number	C
Effective Date	7/10/2024

Author(s):

Jeff Li
Environmental Scientist
on behalf of

Max Ascione
Environmental Scientist

Approved By:

Bobby Wang
Principal Environmental Scientist

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
00	28/05/2024	Internal Draft	MA	BW
A	07/06/2024	External Draft	MA	BW
B	02/07/2024	External Draft	MA	BW
C	10/07/2024	Final	JL	BW

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Our report is based on information made available by the client. The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Cardno is both complete and accurate. Whilst, to the best of our knowledge, the information contained in this report is accurate at the date of issue, changes may occur to the site conditions, the site context or the applicable planning framework. This report should not be used after any such changes without consulting the provider of the report or a suitably qualified person.

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List of Abbreviations and Units

Chemical Names

DO	Dissolved Oxygen
PFAS	Per- and Poly-fluoroalkyl Substances
PFHxS	Perfluorohexane sulfonate
PFOA	Per-fluoro-octanoic Acid
PFOS	Per-fluoro-octane Sulfonate
TDS	Total Dissolved Solids (salinity of water)

Technical Terms

AFFF	Aqueous Film-Forming Foam
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
AS	Australian Standard
BGL	Below Ground Level
COC	Chain of Custody
DSI	Detailed Site Investigation
EC	Electrical Conductivity
EPA	Environmental Protection Authority
LOR	Limit of Reporting
N/A	Not Applicable
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environmental Protection Measure
ORP	Oxidation Reduction Potential
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percentage Difference
SAQP	Sampling and Analysis Quality Plan
SWL	Standing Water Level

Units

ha	Hectares
mAHD	Metres above Australian Height Datum
mBGL	Metres Below Ground Level
mbTOC	Metres below Top of Casing
mg/kg	Milligrams per Kilogram (approximately equivalent to ppm)
mg/L	Milligrams per Litre
mm	Millimetre
mV	Millivolt

ppm	Parts per Million
µg/L	Micrograms per Litre
µS/cm	Micro Siemens per Centimetre (Electrical Conductivity – Water)

Site Specific

OMP	Ongoing Monitoring Plan
DCMM	Defence Contamination Management Manual
Esdat	Environmental data management software
WWCDA	Wagga Wagga City Domestic Airport

1 Introduction

1.1 Background

Cardno (now Stantec) was engaged by the Australian Department of Defence (Defence) to carry out the Per- and Poly-Fluoroalkyl Substances (PFAS) Ongoing Monitoring Plan (OMP; Jacobs, 2019b) of groundwater and surface water at RAAF Base Wagga ("the Site"). The Site is located outside of Wagga Wagga in Forest Hill, New South Wales, as shown in Figure 1, Appendix A.

The OMP was carried out in accordance with the scope and limitations presented in Cardno's Sampling and Analysis Quality Plan (SAQP):

> Cardno, 8 April 2024, Reference: DEF19008, PFAS Ongoing Monitoring Plan Sampling and Analysis Quality Plan (SAQP) Rev10, RAAF Base Wagga Wagga.

For the purposes of this report:

> RAAF Base Wagga is defined as "the Site", which also represents the "On-Site Monitoring Area". The Site is inclusive of the RAAF Base as well as an operational civilian airfield, Wagga Wagga City Domestic Airport (WWCDA), which is operated by the Wagga Wagga City Council (Council) (Figure 1, Appendix A).

> The "Off-Site Monitoring Area" comprise areas to the east, north, west and north-west of the Site (Figure 1, Appendix A).

> The "Monitoring Area" (MA) is comprised of the "On-Site Monitoring Area" and the "Off-Site Monitoring Area" (Figure 1, Appendix A).

1.2 Purpose & Objectives

The objective of the OMP is to assess the changes in the nature and extent of PFAS in groundwater and surface water within the environment, specifically where there is an identified potentially elevated risk to a receptor or a potential future risk to a receptor associated with Defence's historical use of Aqueous Film-Forming Foam (AFFF) including PFAS.

The purpose of this PFAS OMP factual report is to provide an up-to-date status of the condition of the Site as it is currently understood in relation to the most recent sampling event.

The objectives of the report are:

> To provide a succinct summary of the April 2024 sampling event and provision of analytical results with supporting tables and figures.

> To provide confirmation of the current understanding of risk.

> To provide supporting data for the assessment of management actions, where relevant.

1.3 Relevant Guidelines

This assessment has been undertaken in general accordance with applicable industry standards for a site investigation for the purpose, objectives and scope identified in this report. These standards are set out in:

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

> Australian Standard AS 4482-2005, *Guide to the investigation and sampling of sites with potentially contaminated soils, Part 1 - Non-volatile and semi-volatile compounds*.[1]

> Department of Defence, Department of Energy, 2018, *Quality System Manual Schedule B15*.

> Heads of Environmental Protection Authority's Australia and New Zealand (HEPA), (2020), *PFAS National Environmental Management Plan (NEMP)*, Version 2.0, January 2020.

[1] AS 4482.1-2005 is currently 'Withdrawn', but the assessment will consider it still to be suitable as a state of knowledge document until superseded.

> National Environment Protection Council (NEPC), (1999), *National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013) (ASC NEPM)*.

> National Health and Medical Research Council (NHMRC), (2019), *Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water*, August 2019.

> Standards Australia, (1998), *AS/NZ 5667:1998, Water quality – sampling*.

> U.S. Environmental Protection Agency (EPA), (2000), *Guidance for the Data Quality Objectives Process (EPA QA/G-4)*.

> USEPA, (2002), *Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8)*.

2 Scope of Work

Cardno carried out the following tasks in order to satisfy the purpose and objectives of this assessment.

2.1 Review / Revision of the SAQP

Cardno undertook a review of the SAQP prior to commencement of sampling to ensure it was consistent with the *PFAS Ongoing Monitoring Program Sampling, Analysis and Quality Plan Guidance* (2023) document and that it was suitable for the April 2024 monitoring event.

2.2 Groundwater Monitoring

Sampling of groundwater bores was performed in accordance with the SAQP, applying methods set out in Section 3 of this report. The groundwater bores monitored as part of the OMP are presented in Table 2-1, and are shown in Figure 4, Appendix A.

Table 2-1 Groundwater Monitoring Locations (47)

Monitoring Area	Location ID
On-Site	MW243, MW300, MW301, MW302, MW303, MW304, MW305, MW306, MW307, MW308, MW309, MW310, MW311.
Gumly Gumly Wetland	MW200[3], MW204[3], MW233[3], MW312, MW313.
Down-gradient of Gumly Gumly Wetland	MW238[3], MW239[3], MW240, MW244, MW245, MW247, MW248, MW249, MW250, MW251, MW252, MW253, MW254, MW255, MW256, MW257, MW258, MW259.
Off-Site to the north and north-west of Site	MW214[1], MW231[3], MW235[3], MW246.
Drinking water supply bores to the north and north-west of Site	MW209[3], MW211[4], MW212[4], MW213[4], MW260[2].
Property to the east of the Site	MW241[3], MW242[3].

1. MW214 is the current production bore supplying irrigation water to the Base.
2. MW260 replaces MW210 as the water supply bore for the Gumly Gumly Private Irrigation District.
3. Private property bores.
4. Riverina Water County Council water supply bores.

Data loggers previously deployed in 12 groundwater monitoring locations to monitor water levels over time were retrieved and the data downloaded: MW215, MW242, MW243, MW304, MW312, MW238, MW239, MW245, MW244, MW247, MW248 and MW250. Data logger MW249 could not be retrieved during this sampling event. The data will be assessed and reported as part of the Ongoing Monitoring Report (OMR) for 2024.

2.3 Surface Water Monitoring

Sampling of surface water locations was performed in accordance with the SAQP. Applied methods are set out in Section 3 of this report. The surface water locations monitored as part of the OMP are presented in Table 2-2, and are shown in Figure 5, Appendix A.

Table 2-2 Surface Water Monitoring Locations (16)

Monitoring Area	Location ID
Surface Water Inflows – drains discharging from the Site	SW104, SW206.
Surface Water Outflows – drain parallel to Forest Hill Rural Fire Service	SW218.
Marshalls Creek downstream of Gumly Gumly Wetland	SW234, SW262, SW294, SW310.
Murrumbidgee River	SW212, SW261, SW286, SW309.
Kyeamba Creek	SW236, SW240.
Forest Hill Sewage Treatment Plant	SW228, SW288, SW289.

2.4 Data Management

All the data included in the report has been collected, uploaded to the Defence ESdat database and reviewed according to the data management requirements of the Defence Contamination Management Manual (DCMM) Annex L.

2.5 Deviations from the OMP SAQP

Deviations from the SAQP were encountered during this event, as summarised in Table 2-3 and below. On-Site and off-Site sampling and testing was undertaken at 40 groundwater monitoring wells, and 16 surface water locations.

Six groundwater monitoring wells could not be sampled as the wells were found to be dry or had insufficient water for sampling.

Groundwater location MW235 (P06) was unable to be sampled as the bore from which the sample has historically been taken was not in operation. The owner has informed that the irrigation system is currently not in use and returning the system to operational status would not be done prior to the E9 sampling event in April 2024.

Table 2-3 Deviations from the SAQP

Location	Deviation	Comment/Justification	Impact on Existing Dataset
Groundwater			
MW235	Not Sampled	New property owner has taken over the groundwater bore system used for irrigation which the sampling location is connected to. Property owner was notified a month prior to the event but had informed that the irrigation system would not be in operation in time for the sampling event.	Minimal impact – Location last sampled in the November 2022 sampling event. Historical results at this location have been <LOR. The bore system used for irrigation is currently offline, eliminating any potential exposure pathways.
MW301	Not Sampled	Location dry	No impact – historically dry and has not been sampled during the PFAS OMP.
MW303	Not Sampled	Location dry	No impact – historically dry and has not been sampled during the PFAS OMP.
MW305	Not Sampled	Location dry	No impact – historically dry and has not been sampled during the PFAS OMP.
MW307	Not Sampled	Location dry	No impact – historically dry and has not been sampled during the PFAS OMP.
MW309	Not Sampled	Location dry	Low impact – historically dry and has not been sampled since April 2021, where concentrations reported below Drinking Water criteria.
MW313	Not Sampled	Dry	No impact – historically dry and has not been sampled during the PFAS OMP.

Overall, the deviations do not represent significant data gaps and therefore the impact on the understanding of the risk profile is negligible.

3 Methodology

3.1 Groundwater Sampling Methodology

Groundwater monitoring was undertaken as detailed in Table 3-1.

Table 3-1 Groundwater Sampling Method

Activity	Details
Dates of Field Activity	16 to 21 April 2024
Well Gauging	Standing Water Levels (SWL) were gauged using an interface probe. All wells were measured against a specified surveyed mark at the top of the well casing.
Groundwater Field Parameters	Groundwater water quality parameter field measurements (field parameters) were recorded with a water quality meter before sample collection (with the sample in a clean jar). The following field parameters were recorded using a water quality meter: ▪ pH. ▪ electrical conductivity (EC). ▪ oxidation reduction potential (ORP). ▪ dissolved oxygen (DO). ▪ temperature. Field parameters measured by the water quality meter were recorded on field data records. All field instruments (e.g. water quality meter) were calibrated by the equipment supplier or trained Cardno staff to optimise the accuracy of the measurements taken. Bump tests were also completed daily by field staff during the monitoring event. Calibration certificates and bump test records are provided in Appendix D.
Deployment of HydraSleeves®	Hydrasleeves® were not redeployed after retrieval for sampling. Hydrasleeves®, attached PFAS-free twine and attached weights were removed from the monitoring wells during the April 2024 event, after sampling at each location was completed.
Retrieval of HydraSleeves® (Sample Collection)	Samples were collected via continuous pull method at a rate allowing the water to pass through the check valve into the sample sleeve. Samples were discharged immediately (to minimise changes in chemistry) into laboratory sample bottles via a discharge tube, and into containers for field parameters measurements.
Decontamination Procedure	New HydraSleeves® were used at each groundwater monitoring well, thus removing the need for decontamination. All re-usable sampling or down-hole equipment was thoroughly washed using phosphate-free detergent (Liquinox), then double rinsed with de-ionised water before the sample collection.
Sample identification, preservation transport and holding times	Each sample was labelled with the sample location, date, project identification number and sampler's initials. Samples were collected directly into appropriately preserved laboratory supplied bottles (Teflon-free) and packed in chilled containers for delivery to the laboratory under Chain of Custody (CoC) documentation. Sample containers, preservation procedures, sample storage requirements and holding times were undertaken in accordance with those recommended by Standards Australia (AS/NZS 5667.1:1998 and AS 4482.1 as appropriate).

Activity	Details
Laboratory Testing	All groundwater samples were analysed for the full PFAS analytical suite (see SAQP for full list of analytes). The primary laboratory was ALS Global Laboratories (Springvale), and the secondary laboratory (quality control) was Eurofins (Dandenong South). Both laboratories are NATA-accredited for the parameters tested. Copies of the NATA stamped laboratory reports and Chain of Custody documentation are included in Appendix C.
Laboratory Testing – Quality Control	Groundwater quality control samples were collected as follows and analysed for the full PFAS analytical suite: ▪ Field duplicate (intra-laboratory) samples at 1 per 10 water samples (5 samples). ▪ Field triplicate (inter-laboratory) samples at 1 per 10 water samples (5 samples). ▪ Rinsate blank samples at 1 per day [collected off re-used sampling/down-hole equipment (e.g. interface probe)] (4 samples total). ▪ Trip blank samples of 1 per shipment included in the chilled sample containers upon transport to the laboratory (2 samples total).

3.2 Surface Water Sampling Methodology

Surface water monitoring was undertaken using a grab method as detailed in Table 3-2.

Table 3-2 Surface Water Sampling Method

Item	Details
Dates of Field Activity	15 to 21 April 2024
Water Level Gauging	Water depths were measured where relevant with a measuring pole following sample collection.
Surface Water Field Parameters	Surface water field parameters (i.e. pH, EC, ORP, DO, and temperature) were recorded at the time of sampling using a pre-calibrated water quality meter. All field instruments (e.g. water quality meter) were calibrated by the equipment supplier or trained Cardno staff to optimise the accuracy of the measurements taken. Bump tests were also completed daily by field staff during the monitoring event. Calibration certificates and bump test records are provided in Appendix D. Field observations such as colour, odours, suspended solids, sheen presence, condition of the water body that was sampled from such as the type (lake, stream etc.) and channel width were recorded on field sampling sheets, as applicable. Flow rates were also quantitatively recorded where possible using the Float Method (whereby the time it takes a buoyant object to float 10 m downstream is measured and converted to a m/s flow rate). Qualitative flow rates were recorded where quantitative measurements were unable to be taken by field staff (such as when environmental conditions significantly limited visibility or there were access constraints).
Sampling Method	Where possible, the samples were collected directly into sample containers. The sample bottles were positioned at least 10 cm below the surface water level and above the sediment bed and orientated with the opening facing downwards to avoid the collection of surface films. Where access to surface water samples was difficult, the samples were collected using a long-handled sampling device with a glass container (scoop) that was lowered directly into the water body. Samples were then decanted into the laboratory-supplied sample containers. Samples were collected in accordance with Australian/New Zealand Standards (AS/NZS 5667.1:1998) '*Water quality – Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*'.
Decontamination Procedure	All re-usable sampling equipment was thoroughly washed using phosphate-free detergent (Liquinox), and subsequently double rinsed with de-ionised water before the sample collection.

Item	Details
Sample identification, preservation, transport and holding times.	Each sample was labelled with the sample location, date, project identification number and sampler's initials. Sample labelling and naming was in accordance with Annex L of the DCMM. Samples were contained in appropriately preserved laboratory supplied bottles (Teflon-free) and packed in chilled containers for delivery to the laboratory under Chain of Custody (COC) documentation. Sample containers, preservation procedures, sample storage requirements and holding times were undertaken in accordance with those recommended by Standards Australia (AS/NZS 5667.1:1998 and NEPC 1999 as appropriate).
Laboratory Testing	All surface water samples were analysed for the full PFAS analytical suite (see SAQP for full list of analytes). The primary laboratory was ALS Global Laboratories (Springvale), and the secondary laboratory (quality control) was Eurofins (Dandenong South). Both laboratories are NATA-accredited for the parameters tested. Copies of the NATA stamped laboratory reports and Chain of Custody documentation are included in Appendix C.
Laboratory Testing – Quality Control	Surface water quality control samples were collected as follows and analysed for the full PFAS analytical suite: ▪ Field duplicate (intra-laboratory) samples at 1 per 10 water samples (2 samples). ▪ Field triplicate (inter-laboratory) samples at 1 per 10 water samples (2 samples). ▪ Rinsate blank samples at 1 per day [collected off re-used sampling equipment (e.g. long-handled sampling device)] (4 samples total). ▪ Trip blank samples of 1 per shipment included in the chilled sample containers upon transport to the laboratory (2 samples total).

3.3 Quality Assurance / Quality Control (QA/QC)

A critical aspect of site assessments is the demonstration of the quality of the data used as the basis for the assessment. This is achieved through a Data Validation process which includes a review of the following data quality indicators, as described in the SAQP:

- QA documentation.
- Bias.
- Data Representativeness.
- Data Precision & Accuracy.
- Data Comparability.
- Data Set Completeness.

A detailed review of these aspects has been undertaken, the results of which are presented in Appendix E. A summary of the data validation from the QA/QC review is included in Section 4.4 below.

3.4 Assessment Criteria

The adopted assessment criteria for groundwater and surface water are detailed in Table 3-3.

Table 3-3 Criteria for Groundwater and Surface Water

Exposure Scenario	Adopted Assessment Criteria		Guidance
	PFHxS / PFOS	PFOA	
	µg/L		
Human Health – Drinking Water Quality Guideline[1]	0.07[2]	0.56	HEPA 2020
Human Health - Surface Water Recreational	2[2]	10	HEPA 2020
Ecological	0.13[3]	220	HEPA 2020

1. Drinking Water screening guidelines have been adopted for screening purposes for Industrial Water use, Stock Water use and Agriculture/Parks/Gardens Water use.
2. Combined PFOS and PFHxS.
3. PFOS only. 95% species protection guideline values adopted for screening of results, in accordance with the OMP (Jacobs, 2019b).

4 Field Observations and Results

4.1 Conditions Impacting the Sampling Event

In the seven days prior to the sampling event, 0.20 mm of rain was recorded at the nearest weather station (072150), located approximately 1 km south of the Site. 0.2 mm of rain was recorded during the sampling event. April 2024 rainfall was 38.6 mm, similar to the previous sampling event in October 2023 (E8) with 33.0 mm, but is considerably lower than that recorded in previous events including April 2023 (E7) at 61.8 mm and October 2022 (E6) at 145.8 mm. Majority of rainfall in April 2024 occurred in the earlier weeks prior to the E9 sampling event, with noticeably 21.2 mm of rain on the 6th of April.

No on-Site activities with the potential to impact sample collection or the results were noted.

4.2 Groundwater

4.2.1 Summary of Field Observations

4.2.1.1 Water quality parameter field measurements

Stabilised water quality field parameters, water colour and turbidity observations recorded during the groundwater sampling program are presented in field sampling record sheets, included in Appendix D. Water quality field parameters were generally consistent with previous historical water quality parameters. Groundwater varied from clear to brown with no/low to high turbidity. Notable changes recorded relative to previous monitoring events include:

- MW231 recorded a substantially higher dissolved oxygen (8.1 mg/L) than the previous two events at 1.47 – 1.48 mg/L.

4.2.1.2 Groundwater Elevation and Migration

Groundwater elevation ranges encountered for the two aquifers during this sampling event are as follows:

- Shallow aquifer – from 167.459 mAHD (MW250) to 193.414 mAHD (MW311) for the Cowra Formation
- Deep aquifer – from 167.498 mAHD (MW249) to 188.552 mAHD (MW306) for the Lachlan Formation

Overall groundwater elevations for the shallow aquifer and the deep aquifer were generally consistent with the October 2023 event.

Groundwater flow for both aquifers is interpreted to be in a north-westerly direction from the wells located on and within the vicinity of the Site, consistent with the previous monitoring events. Groundwater elevation contours and flow directions are shown in Figures 2 and 3, Appendix A. Gauging records are presented in Appendix D.

4.2.2 Groundwater Laboratory Results

The results of laboratory analysis have been compared against adopted assessment criteria, and are presented in Table B1, Appendix B, and summarised in Table 4-1 below. Of the 40 primary samples that were tested, PFOA was reported above the limit of reporting (LOR) in 3 samples, and Sum of PFHxS and PFOS in 12 samples. PFOS was reported above ecological assessment criteria in three samples, and Sum of PFHxS and PFOS was reported above drinking water assessment criteria in 10 samples. PFOA was not reported above criteria.

Table 4-1 Summary of Groundwater Results Exceeding Adopted Criteria

Analytes	Locations Exceeding Criteria	Adopted Criteria[4] (µg/L)	Max Conc. (µg/L)	No. Analytical Results >LOR	No. Results Above Criteria	Significant Concentration Changes[3]
PFOS	MW200, MW233, MW254	0.13[2]	0.30	10	3	-
PFOA	None	0.56[1]	0.15	3	0	-
Sum of PFHxS and PFOS	MW200, MW233, MW240, MW248, MW253, MW254, MW255, MW256 MW300, MW311	0.07[1]	0.78	12	10	-

1. Drinking water assessment criteria
2. Ecological assessment criteria
3. Significant concentration change defined as an order of magnitude increase or decrease
4. The most sensitive adopted guideline value for each analyte is displayed

Laboratory results have also been compared to available historical data. All groundwater results reported during this event were generally consistent (within the same order of magnitude) with previous sampling events. No locations reported a significant change in concentration for this monitoring event.

No first-time detections of PFOS, PFOS+PFHxS or PFOA or new exceedances of guideline values were reported. The laboratory reports are provided in Appendix C.

4.2.3 Summary of Monitoring Network Condition and Repairs

No changes to the monitoring network condition were noted.

4.3 Surface Water

4.3.1 Summary of Field Observations

4.3.1.1 Water quality parameter field measurements

Water quality field parameters, water colour and turbidity observations recorded during the surface water sampling program are presented in field sampling record sheets, included in Appendix D. Field parameters were generally consistent with historical observations. Surface water varied from clear to slight yellow to brown with low to high turbidity. In general, water clarity was consistent with the previous monitoring events. With the exception of SW240 which recorded a pH of 8.1, higher and inconsistent with historical data, in which the previous pH range was 6.7 – 7.4.

4.3.2 Surface Water Laboratory Results

The results of laboratory analysis have been compared against adopted assessment criteria, presented in Table B2, Appendix B, and summarised in Table 4-2 below. Of the 16 primary samples that were tested, PFOA was reported above the limit of reporting in two samples, and Sum of PFHxS and PFOS in seven samples. PFOS was reported above ecological assessment criteria in four samples, and Sum of PFHxS and PFOS was reported above drinking water assessment criteria in five samples. PFOA was not reported above criteria.

Table 4-2 Summary of Surface Water Results Exceeding Adopted Criteria

Analytes	Locations Exceeding Criteria	Adopted Criteria (µg/L)	Max Conc. (µg/L)	No. Analytical Results >LOR	No. Results Above Criteria	Significant Concentration Changes[3]
PFOS	SW206, SW228, SW289, SW310	0.13[2]	0.68	6	4	-
PFOA	-	0.56[1]	0.02	2	0	-
Sum of PFHxS and PFOS	SW104, SW206, SW228, SW289, SW310	0.07[1]	0.98	7	5	-

Analytes	Locations Exceeding Criteria	Adopted Criteria (µg/L)	Max Conc. (µg/L)	No. Analytical Results >LOR	No. Results Above Criteria	Significant Concentration Changes[3]
1. Drinking water assessment criteria 2. Ecological assessment criteria 3. Significant concentration change defined as an order of magnitude increase or decrease 4. The most sensitive assessment criteria for each analyte has been adopted						

Results have also been compared to available historical data. All surface water results reported during this event were generally consistent with previous sampling events. No locations reported a significant change in concentration for this monitoring event.

No first-time detections of PFOS, PFOS+PFHxS or PFOA or new exceedances of guideline values were reported. The laboratory reports are provided in Appendix C.

4.4 Data Validation

The data validation process has concluded that there are no significant systematic errors in the data collection process. Therefore, the data set used as the basis for the surface water and groundwater assessment is considered valid and complete. A detailed Data Quality Review is included in Appendix E.

4.5 Risk Profile

The risk profile for the Site is detailed in the 2021 Annual Interpretive Report provided by Cardno (Reference: DEF19008, *'PFAS OMP Annual Interpretive Report -, April and October 2021, Sampling Events RAAF Base Wagga'*. Please refer to this for a detailed discussion.

5 Summary and Conclusions

Cardno conducted the April 2024 biannual groundwater and surface water monitoring event at RAAF Base Wagga as part of the PFAS OMP. On-Site and off-Site sampling and testing was undertaken at 40 groundwater monitoring wells and 16 surface water locations.

Groundwater levels were gauged in all accessible wells before sampling. Groundwater within both aquifers was interpreted to flow in a north-westerly direction from the wells located around the Site, consistent with the previous monitoring events.

The results of the April 2024 monitoring event do not indicate any changes in the risk profile associated with Defence's historical use of AFFF since the previous monitoring event in October 2023.

Table 5-1 Summary of Results

Activity	Details
Deviations from OMP SAQP	> Six groundwater wells were not sampled due to the wells being dry (MW301, MW303, MW305, MW307, MW309 and MW313). > One groundwater location (MW235) was not sampled as the bore was not in operation. > Bore MW210 had been decommissioned. Monitoring and sampling was conducted at alternate location MW260, providing representative data for that area of the Site / aquifer.
Groundwater Analytical Results	> 40 groundwater samples were collected in total. > No locations reported a first-time detection for PFOS, PFOA, or PFOS+PFHxS. > No locations reported a new exceedance of the lowest adopted assessment criteria for PFOS, PFOA or PFOS+PFHxS. > All groundwater results reported during this event were generally consistent with previous sampling events.

Activity	Details
Surface Water Analytical Results	> 16 surface water samples were collected in total. > No locations reported a first-time detection for PFOS, PFOA, or PFOS+PFHxS. > No locations reported a new exceedance of the lowest adopted assessment criteria for PFOS, PFOA or PFOS+PFHxS. > All surface water results reported during this event were generally consistent with the previous monitoring event.
Next Scheduled Monitoring Event	> The next OMP monitoring event is scheduled for October 2024.

6 References

General References

1. Australian and New Zealand Guidelines, (2018), *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
2. Department of Defence (2021a) *Defence OMP Factual Report Preparation Guidance*, Revised May 2021.
3. Department of Defence (2021b), Defence Contamination Management Manual (DCMM), Annex L – Data Management, August 2018, Amended June 2021.
4. Environmental Protection Agency (United States EPA; 2002) EPA/240/R-02/004 *Guidance on Environmental Data Verification and Data Validation,* November 2002.
5. The Heads of EPAs Australia and New Zealand (HEPA; 2020) *PFAS National Environmental Management Plan (NEMP) Version 2.0*, January 2020.
6. National Environment Protection Council (NEPC; 1999 - amended 2013) *National Environmental Protection (Assessment of Site Contamination) Measure (as amended),* registered May 2013.
7. National Health and Medical Research Council (2011 – updated 2018) *National Water Quality Management Strategy Australian Drinking Water Guidelines*, 6 August 2018.
8. Nation Health and Medical Research Council (NHMRC; 2019) *Guidance on Per and Poly-fluoroalkyl Substances (PFAS) in Recreational Water,* August 2019.
9. Standards Australia/Standards New Zealand (1998) AS5667.1:1998 *Water Quality – Sampling, Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*.
10. US EPA (2006) *Guidance for the Data Quality Objectives Process* (EPA QA/G-4), United States Environmental Protection Agency.
11. US EPA (2002) *Guidance on Environmental Data Verification and Data Validation,* Reference: EPA/240/R-02/004, United States Environmental Protection Agency, November 2002.

Site Specific References

12. Jacobs (2018a) *Comprehensive Investigation of Per- And Poly- Fluoroalkyl Substances (PFAS) at RAAF Base Wagga. Detailed Site Investigation*, June 2018.
13. Jacobs (2018b) *Human Health and Ecological Risk Assessment for the RAAF Base Wagga PFAS Investigation*, 6 November 2018.
14. Jacobs (2019a) *RAAF Base Wagga; PFAS Management Area Plan*, September 2019.
15. Jacobs (2019b) *PFAS Ongoing Monitoring Plan*, September 2019.
16. Jacobs (2020) *RAAF Base Wagga Comprehensive PFAS Investigation - Ongoing Monitoring Program Groundwater Well Installation Report.* Prepared for Department of Defence, December 2020.
17. Cardno (2024) *PFAS Ongoing Monitoring Plan Sampling and Analysis Quality Plan (SAQP),* RAAF Base Wagga. Prepared for Department of Defence, April 2024.

APPENDIX

A

FIGURES

Cardno

now

Stantec

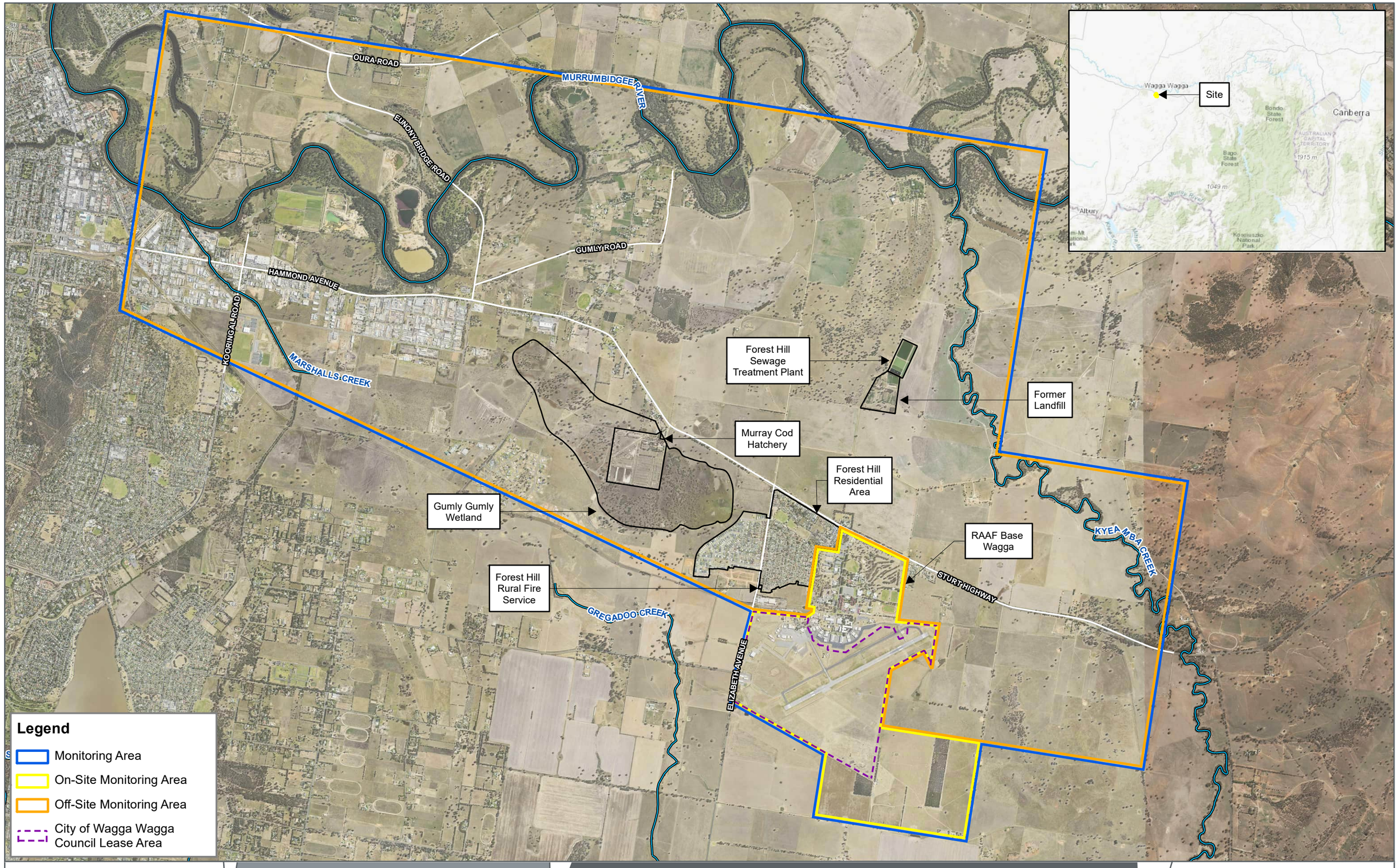

FIGURE 1

1:40,000 Scale at A3

Metres

0 1,000 2,000

Site Locality Plan

BIANNUAL SAMPLING EVENT
RAAF BASE WAGGA, NSW
DEPARTMENT OF DEFENCE

Cardno now Stantec

Map Produced by Cardno now Stantec
Date: 2022-06-07 | Project: DEF19008
Coordinate System: GDA 1994 MGA Zone 55
Map: DEF19008-GS-032-SiteLocalityPlan_WW_.mxd 07
Aerial Imagery Supplied by Metromap (February, 2022)

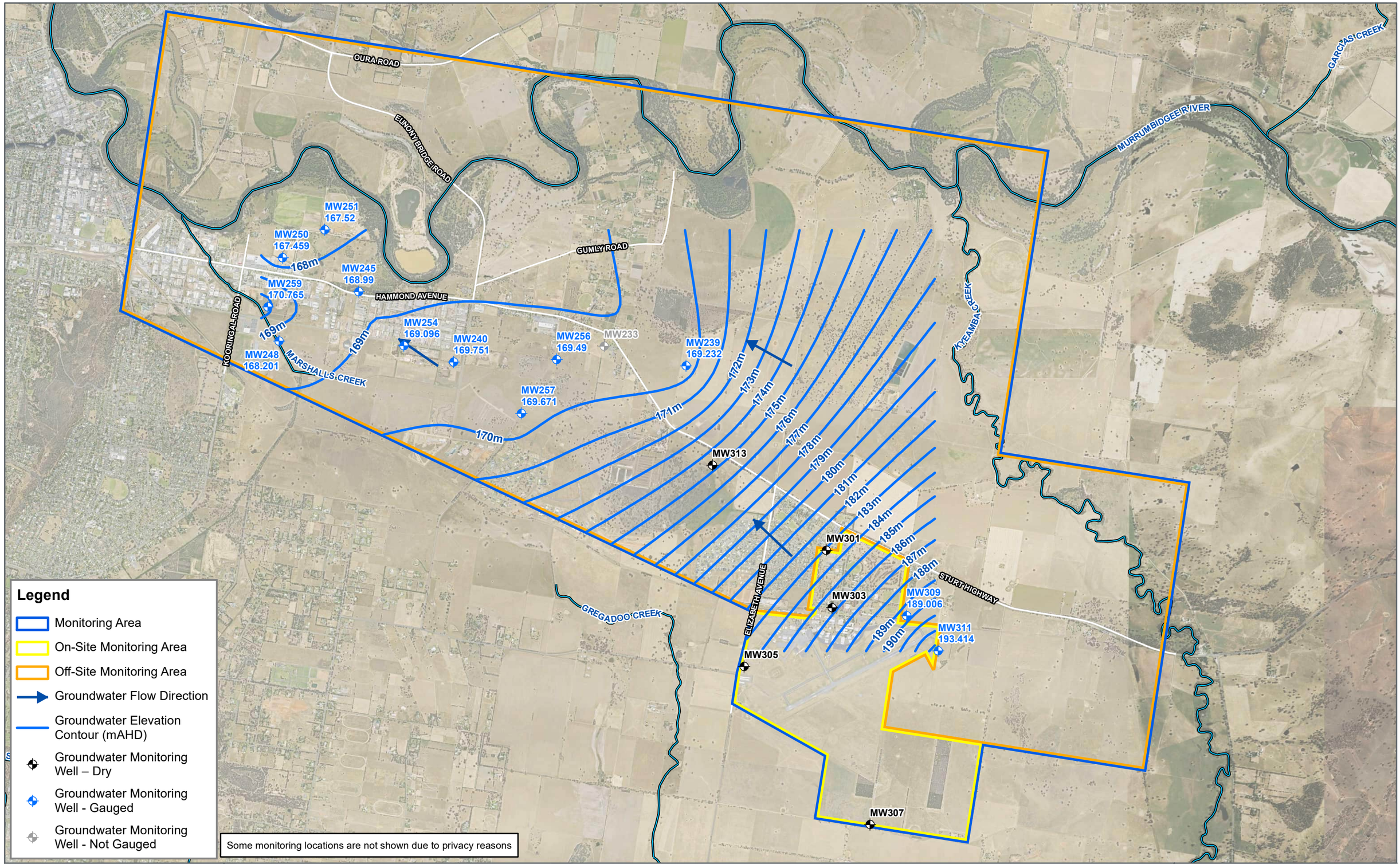

FIGURE 2

1:40,000 Scale at A3

Metres

0 1,000 2,000

Groundwater Elevation Contours - Shallow Aquifer (April, 2024)

BIANNUAL SAMPLING EVENT
RAAF BASE WAGGA, NSW
DEPARTMENT OF DEFENCE

Cardno now Stantec

Map Produced by Cardno now Stantec
Date: 2024-6 n6-06 | Project: DEF19008
Coordinate System: GDA 1994 MGA Zone 55
Map: DEF19008-GS-0461-GWContoursSA_CowraE9_WW.mxd 02
Aerial Imagery Supplied by Metromap

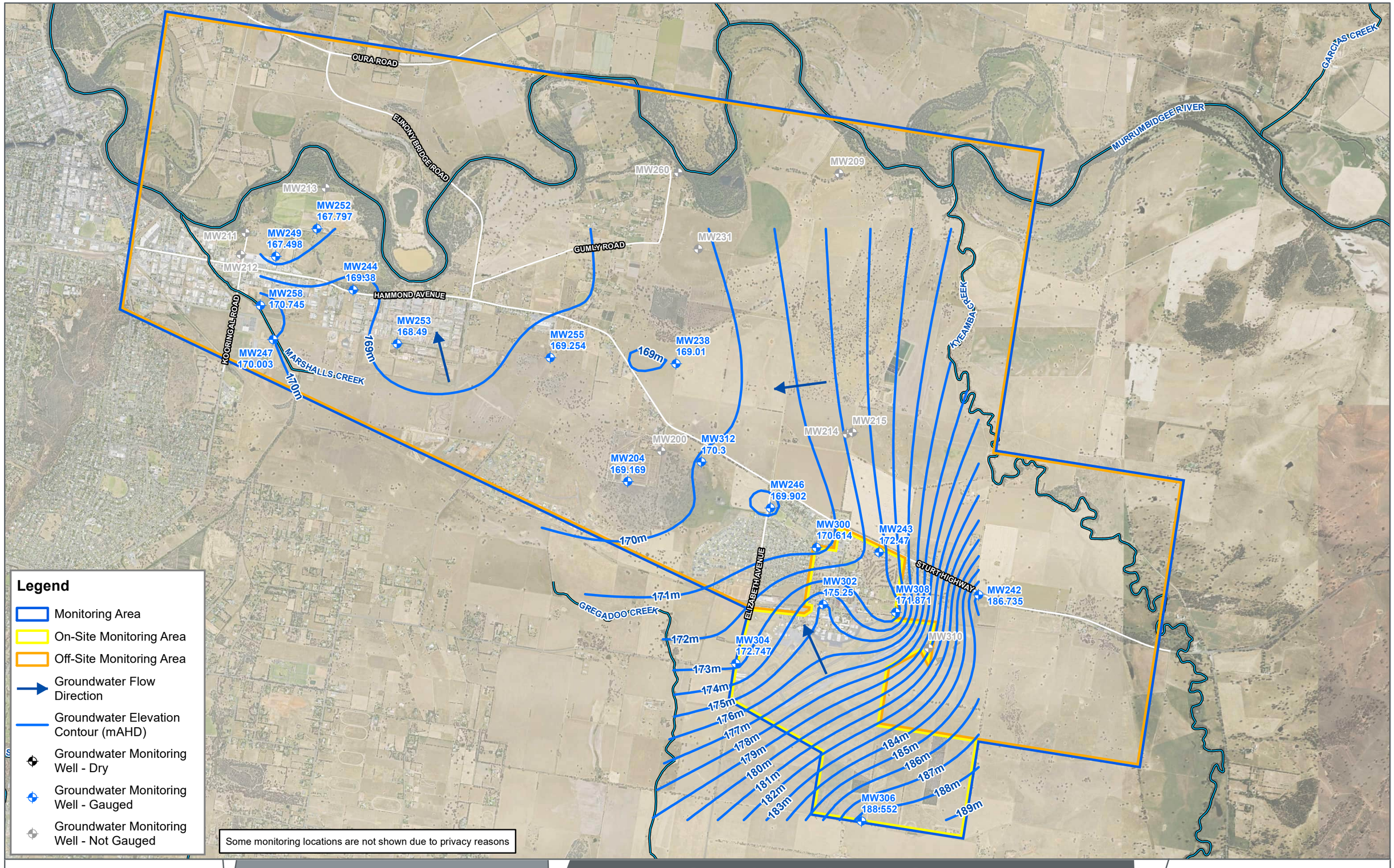

FIGURE 3

1:40,000 Scale at A3

Metres

0 1,000 2,000

Groundwater Elevation Contours - Lachlan Aquifer (April, 2024)

BIANNUAL SAMPLING EVENT
RAAF BASE WAGGA, NSW
DEPARTMENT OF DEFENCE

Cardno now Stantec

Map Produced by Cardno now Stantec
Date: 2024-05-24 | Project: DEF19008
Coordinate System: GDA 1994 MGA Zone 55
Map: DEF19008-GS-0462-GWContoursDA_LachlanE9_WW.mxd 01
Aerial Imagery Supplied by Nearmap (February, 2023)

OURA ROAD
EUNONY ERIDGE ROAD
GUMLY ROAD
KOORINGAL ROAD
MARSHALLS CREEK
GREGADOO CREEK
KYEAMBA CREEK
MURRUMBIDGEE RIVER
GARCIAS CREEK
ELIZABETH AVENUE
STURT HIGHWAY

MW213
MW211
MW251
MW252
GW025234_D
MW250
MW212
MW249
MW244
MW245
MW259
MW258
MW248
MW247
MW253
MW254
MW240
MW255
MW256
MW260
MW209
MW231
MW233
MW208
MW239
MW238
MW257
MW214
MW215
MW200
MW313
MW204
MW312
MW246
MW300
MW301
MW243
MW302
MW303
MW308
MW309
MW242
MW241
MW310
MW311
MW304
MW305
MW306
MW307

Legend

- Monitoring Area
- On-Site Monitoring Area
- Off-Site Monitoring Area
- Dry / Insufficient water
- Sampled, 'No New Detection Or Exceedance'

Some monitoring locations are not shown due to privacy reasons

FIGURE 4

1:40,000 Scale at A3

Metres

0 1,000 2,000

PFAS Results Summary - Groundwater (April, 2024)

BIANNUAL SAMPLING EVENT
RAAF BASE WAGGA, NSW
DEPARTMENT OF DEFENCE

Cardno now Stantec

Map Produced by Cardno now Stantec
Date: 2024-06-06 | Project: DEF19008
Coordinate System: GDA 1994 MGA Zone 55
Map: DEF19008-GS-0463-GW_PFAS_SummaryE9_WW.mxd 02
Aerial Imagery Supplied by Metromap

OURA ROAD
EUNONY BRIDGE ROAD
GUMLY ROAD
HAMMOND AVENUE
KOORINGAL ROAD
MARSHALLS CREEK
KYEAMBA CREEK
MURRUMBIDGEE RIVER
GARCIAS CREEK
STURT HIGHWAY
ELIZABETH AVENUE
GREGADOO CREEK

SW261
SW262
SW309
SW294
SW234
SW212
SW286
SW228
SW289
SW236
SW288
SW310
SW240
SW218
SW206
SW104

Legend

- Monitoring Area
- On-Site Monitoring Area
- Off-Site Monitoring Area
- Sampled, 'No New Detection Or Exceedance'

FIGURE 5

1:40,000 Scale at A3

Metres
0 1,000 2,000

PFAS Results Summary - Surface Water (April, 2024)

BIANNUAL SAMPLING EVENT
RAAF BASE WAGGA, NSW
DEPARTMENT OF DEFENCE

N

Cardno now Stantec

Map Produced by Cardno now Stantec
Date: 2024-05-24 | Project: DEF19008
Coordinate System: GDA 1994 MGA Zone 55
Map: DEF19008-GS-0464-SW_PFAS_SummaryE9_WW.mxd 01
Aerial Imagery Supplied by Metromap

APPENDIX

B

DATA ASSESSMENT TABLES

Cardno

now

Stantec

							Perfluorocarbons											
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
MW200	**Off-base**	**PO1**	**07 Jul 2017**	**0906_GW200_D_07072017**	**Normal**	**ES1716876**	1.36	0.08	***3.36***	-	0.34	0.29	2.00	0.08	<0.02	<0.1	0.10	0.32	-	0.05	<0.02	<0.02
			25 Mar 2020	**0906_MW200_20200325**	**Normal**	**ES2011455**	0.75	0.05	**1.90**	-	0.18	0.19	1.15	0.04	<0.02	<0.1	0.05	0.26	-	0.03	<0.02	<0.02
			30 Sep 2020	**0906_MW200_20200930**	**Normal**	**ES2034893**	0.60	0.04	**1.56**	-	0.14	0.18	0.96	0.05	<0.02	<0.1	0.04	0.26	-	0.03	<0.02	<0.02
			23 Apr 2021	**0906_MW200_20210423**	**Normal**	**ES2116296**	0.39	0.04	**1.39**	-	0.14	0.15	1.00	<0.02	<0.02	<0.1	0.05	0.24	-	0.03	<0.02	<0.02
			21 Oct 2021	**0906_MW200_20211021**	**Normal**	**ES2139300**	0.31	0.02	**0.86**	-	0.10	0.10	0.55	0.03	<0.02	<0.1	0.03	0.15	-	<0.02	<0.02	<0.02
			03 May 2022	**0906_MW200_20220503**	**Normal**	**EM2208337**	0.28	0.03	**0.92**	-	0.09	0.10	0.64	0.02	<0.02	<0.1	0.03	0.14	-	<0.02	<0.02	<0.02
			08 Nov 2022	**0906_MW200_20221108**	**Normal**	**EM2222380**	0.28	0.02	**0.92**	-	0.10	0.10	0.64	0.02	<0.02	<0.1	0.03	0.14	-	<0.02	<0.02	<0.02
			13 Apr 2023	**0906_MW200_20230413**	**Normal**	**EM2306915**	0.30	0.02	**0.96**	-	0.09	0.12	0.66	0.03	<0.02	<0.1	0.03	0.16	-	<0.02	<0.02	<0.02
			13 Oct 2023	**0906_MW200_231013**	**Normal**	**EM2318608**	0.30	0.02	**0.90**	-	0.08	0.09	0.60	0.03	<0.02	<0.1	0.03	0.14	-	<0.02	<0.02	<0.02
			18 Apr 2024	**0906_MW200_240418**	**Normal**	**EM2406725**	0.20	0.02	**0.78**	-	0.08	0.09	0.58	<0.02	<0.02	<0.1	0.03	0.14	-	<0.02	<0.02	<0.02
MW204	**Off-base**	**PO1**	**07 Jul 2017**	**0906_GW204_D_07072017**	**Normal**	**ES1716876**	0.03	<0.01	0.07	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC101_07072017	**Field_D**	**ES1716876**	0.04	<0.01	**0.08**	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC201_07072017	**Interlab_D**	**553701**	0.02	<0.01	-	-	<0.01	<0.01	0.02	<0.01	<0.01	<0.05	<0.01	<0.01	-	<0.01	<0.01	<0.01
			18 Jan 2018	**0906_MW204_D_180118**	**Normal**	**ES1802488**	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
						ES1803668	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				0906_QC101_180118	**Field_D**	**ES1802488**	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
				0906_QC201_180118	**Interlab_D**	**581448**	0.01	<0.01	0.04	-	<0.01	<0.01	0.03	<0.01	<0.01	<0.05	<0.01	<0.01	-	<0.01	<0.01	<0.01
			20 Feb 2018	**0906_MW204_D_180220**	**Normal**	**ES1805693**	0.03	<0.01	0.05	-	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			30 Mar 2020	**0906_MW204_20200330**	**Normal**	**ES2011455**	<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
			01 Oct 2020	**0906_MW204_20201001**	**Normal**	**ES2034893**	<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
			23 Apr 2021	**0906_MW204_20210423**	**Normal**	**ES2116296**	<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
			21 Oct 2021	**0906_MW204_20211021**	**Normal**	**ES2139300**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			03 May 2022	**0906_MW204_20220503**	**Normal**	**EM2208337**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	**0906_MW204_20221109**	**Normal**	**EM2222380**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Apr 2023	**0906_MW204_20230413**	**Normal**	**EM2306915**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Oct 2023	**0906_MW204_231013**	**Normal**	**EM2318608**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2024	**0906_MW204_240418**	**Normal**	**EM2406725**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW209	**Off-base**	**PO2**	**07 Sep 2017**	**0906_GW209_D_170907**	**Normal**	**EM1712263**	<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
				0906_QC101_170907	**Field_D**	**EM1712263**	<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
				0906_QC201_170907	**Interlab_D**	**562566**	<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
			12 Jan 2018	**0906_MW209_D_180112**	**Normal**	**ES1801990**	<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
			31 Mar 2020	**0906_MW209_20200331**	**Normal**	**ES2011456**	<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
			30 Sep 2020	**0906_MW209_20200930**	**Normal**	**ES2034898**	<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
			22 Apr 2021	**0906_MW209_20210422**	**Normal**	**ES2116325**	<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
			21 Oct 2021	**0906_MW209_20211021**	**Normal**	**ES2139301**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			03 May 2022	**0906_MW209_20220503**	**Normal**	**EM2208336**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	**0906_MW209_20221109**	**Normal**	**EM2222392**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2023	**0906_MW209_20230418**	**Normal**	**EM2306916**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Oct 2023	**0906_MW209_231016**	**Normal**	**EM2318609**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	**0906_MW209_240419**	**Normal**	**EM2406724**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW210	**Off-base**	**PO3**	**20 Jun 2017**	**0906_0S002_170620**	**Normal**	**ES1715329**	<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
				0906_QC101_170620	**Field_D**	**ES1715329**	<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
				0906_QC201_170620	**Interlab_D**	**551365**	<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
			18 Jan 2018	**0906_MW210_D_180112**	**Normal**	**ES1802470**	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
			21 Feb 2018	**0906_MW210_D_180221**	**Normal**	**ES1805664**	<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
			17 Jul 2018	**0906_MW210_D_180717**	**Normal**	**EM1811457**	<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
				0906_QC101_180717	**Field_D**	**EM1811457**	<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
				0906_QC201_180717	**Interlab_D**	**608455**	<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
			26 Mar 2020	**0906_MW210_20200326**	**Normal**	**ES2011461**	<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
			01 Oct 2020	**0906_MW210_20201001**	**Normal**	**ES2034897**	<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
			23 Apr 2021	**0906_MW210_20210423**	**Normal**	**ES2116321**	<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
			21 Oct 2021	**0906_MW210_20211021**	**Normal**	**ES2139302**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			03 May 2022	**0906_MW210_20220503**	**Normal**	**EM2208335**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	**0906_MW210_20221108**	**Normal**	**EM2222395**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2023	**0906_MW210_20230418**	**Normal**	**EM2306917**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW211	**Off-base**	**PO4**	**20 Jun 2017**	**0906_EWB1_170620**	**Normal**	**ES1715334**	<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
			04 Dec 2017	**0906_EWB1_171204**	**Normal**	**ES1731229**	<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
			27 Mar 2020	**0906_MW211_20200327**	**Normal**	**ES2011459**	<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
			28 Sep 2020	**0906_MW211_20200928**	**Normal**	**ES2034885**	<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

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			20 Apr 2021	0906_MW211_20210420	Normal	ES2116324	<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
			20 Oct 2021	0906_MW211_20211020	Normal	ES2139303	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW211_20221108	Normal	EM2222397	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			12 Oct 2023	0906_MW211_231012	Normal	EM2318611	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2024	0906_MW211_240415	Normal	EM2406732	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW212	Off-base	PO4	20 Jun 2017	0906_EWB2_170620	Normal	ES1715334	<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
			04 Dec 2017	0906_EWB2_171204	Normal	ES1731229	<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
			27 Mar 2020	0906_MW212_20200327	Normal	ES2011459	<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
			28 Sep 2020	0906_MW212_20200928	Normal	ES2034885	<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
			20 Apr 2021	0906_MW212_20210420	Normal	ES2116324	<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
			20 Oct 2021	0906_MW212_20211020	Normal	ES2139303	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW212_20220502	Normal	EM2208334	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW212_20221109	Normal	EM2222397	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			12 Oct 2023	0906_MW212_231012	Normal	EM2318611	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2024	0906_MW212_240415	Normal	EM2406732	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW213	Off-base	PO4	20 Jun 2017	0906_EWB3_170620	Normal	ES1715334	<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
			04 Dec 2017	0906_EWB3_171204	Normal	ES1731229	<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
			27 Mar 2020	0906_MW213_20200327	Normal	ES2011459	<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
				0906_QC101_20200327	Field_D	ES2011459	<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
				0906_QC201_20200327	Interlab_D	712442	<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
			28 Sep 2020	0906_MW213_20200928	Normal	ES2034885	<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
				0906_QC101_20200928	Field_D	ES2034862-AA	<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
				0906_QC201_20200928	Interlab_D	749083	<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
			20 Apr 2021	0906_MW213_20210420	Normal	ES2116324	<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
			20 Oct 2021	0906_MW213_20211020	Normal	ES2139303	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC104_20211020	Field_D	ES2139231	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC204_20211020	Interlab_D	837704	<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
			02 May 2022	0906_MW213_20220502	Normal	EM2208334	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			12 Oct 2023	0906_MW213_231012	Normal	EM2318611	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2024	0906_MW213_240415	Normal	EM2406732	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW214	Off-base	Base	20 Jun 2017	0906_GW047279_170620	Normal	ES1715334	<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
			18 Jan 2018	0906_MW214_D_180118	Normal	ES1802545	<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
			31 Mar 2020	0906_MW214_20200331	Normal	ES2011568	<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
			01 Oct 2020	0906_MW214_20201001	Normal	ES2034891	<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
			27 Apr 2021	0906_MW214_20210427	Normal	ES2116327	<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
			21 Oct 2021	0906_MW214_20211021	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			04 May 2022	0906_MW214_20220503	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW214_20221107	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Apr 2023	0906_MW214_20230414	Normal	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW214_231016	Normal	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2024	0906_MW214_240417	Normal	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW215	Off-base	Base	20 Jun 2017	0906_GW047281_170620	Normal	ES1715334	0.06	<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
			16 Jan 2018	0906_MW215_D_180116	Normal	ES1802545	<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
MW231	Off-base	PO2	12 Jan 2018	0906_MW231_D_180112	Normal	ES1802473	<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
			26 Mar 2020	0906_MW231_20200326	Normal	ES2011456	<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
						ES2011459	<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
			30 Sep 2020	0906_MW231_20200930	Normal	ES2034898	<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
			23 Apr 2021	0906_MW231_20210423	Normal	ES2116325	<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
			22 Oct 2021	0906_MW231_20211022	Normal	ES2139301	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			04 May 2022	0906_MW231_20220504	Normal	EM2208336	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW231_20221109	Normal	EM2222392	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2023	0906_MW231_20230418	Normal	EM2306916	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW231_231016	Normal	EM2318609	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW231_240419	Normal	EM2406724	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW233	Off-base	PO5	20 Feb 2018	0906_MW233_I_180220	Normal	ES1805656	0.08	<0.01	**0.18**	-	<0.02	<0.02	0.10	<0.02	<0.02	<0.1	<0.02	0.02	-	<0.02	<0.02	<0.02
			25 Mar 2020	0906_MW233_20200325	Normal	ES2011451	0.18	<0.01	**0.37**	-	<0.02	0.02	0.19	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
			30 Sep 2020	0906_MW233_20200930	Normal	ES2034890	0.25	<0.01	**0.44**	-	0.02	0.03	0.19	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02
			22 Apr 2021	0906_MW233_20210422	Normal	ES2116319	0.17	<0.01	**0.38**	-	0.02	0.02	0.21	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02
			19 Oct 2021	0906_MW233_20211019	Normal	ES2139304	0.28	<0.01	**0.52**	-	0.03	0.04	0.24	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			02 May 2022	0906_MW233_20220502	Normal	EM2208333	0.20	<0.01	**0.39**	-	0.02	0.02	0.19	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW233_20221107	Normal	EM2222376	0.24	<0.01	**0.47**	-	0.03	0.03	0.23	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
			13 Apr 2023	0906_MW233_ 20230413	Normal	EM2306918	0.20	<0.01	**0.41**	-	0.02	0.04	0.21	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW233_231016	Normal	EM2318613	0.18	<0.01	**0.36**	-	<0.02	0.02	0.18	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW233_240419	Normal	EM2406731	0.16	<0.01	**0.31**	-	<0.02	0.02	0.15	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
MW235	Off-base	PO6	11 Jan 2018	0906_MW235_D_180111	Normal	ES1802460	<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
			19 Dec 2019	0906_MW235_D_191219	Normal	ES1942606-AC	<0.01	<0.01	<0.01	-	<0.02	-	<0.02	-	-	<0.1	<0.02	<0.02	-	<0.02	-	-
			27 Mar 2020	0906_MW235_20200327	Normal	ES2011450	<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
			30 Sep 2020	0906_MW235_20200930	Normal	ES2034899	<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
			20 Apr 2021	0906_MW235_20210420	Normal	ES2115488	<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
			20 Oct 2021	0906_MW235_20211020	Normal	ES2139305	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			01 May 2022	0906_MW235_20220501	Normal	EM2208341	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW235_20221107	Normal	EM2222377	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Apr 2023	0906_MW235_20230413	Normal	EM2306920	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW238	Off-base	PO2	21 Nov 2019	0906_MW238_18_191121	Normal	ES1939538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				0906_MW238_36_191121	Normal	ES1939538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12 Dec 2019	0906_MW238_I_191212	Normal	ES1941492-AC	<0.01	<0.01	<0.01	-	<0.02	-	<0.02	-	-	<0.1	<0.02	<0.02	-	<0.02	-	-
			30 Mar 2020	0906_MW238_20200330	Normal	ES2011456	<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
			30 Sep 2020	0906_MW238_20200930	Normal	ES2034898	<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
			23 Apr 2021	0906_MW238_20210423	Normal	ES2116325	<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
			21 Oct 2021	0906_MW238_20211021	Normal	ES2139301	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			03 May 2022	0906_MW238_20220503	Normal	EM2208336	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	0.03	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW238_20221108	Normal	EM2222392	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2023	0906_MW238_20230418	Normal	EM2306916	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Oct 2023	0906_MW238_231015	Normal	EM2318609	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW238_240419	Normal	EM2406724	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW239	Off-base	PO2	12 Dec 2019	0906_MW239_S_191212	Normal	ES1941492-AC	<0.01	<0.01	<0.01	-	<0.02	-	<0.02	-	-	<0.1	<0.02	<0.02	-	<0.02	-	-
			30 Mar 2020	0906_MW239_20200330	Normal	ES2011456	<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
			01 Oct 2020	0906_MW239_20201001	Normal	ES2034898	<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
			23 Apr 2021	0906_MW239_20210423	Normal	ES2116325	<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
			21 Oct 2021	0906_MW239_20211021	Normal	ES2139301	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			03 May 2022	0906_MW239_20220503	Normal	EM2208336	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW239_20221108	Normal	EM2222392	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2023	0906_MW239_20230418	Normal	EM2306916	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Oct 2023	0906_MW239_231015	Normal	EM2318609	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW239_240419	Normal	EM2406724	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW240	Off-base	PO7	12 Dec 2019	0906_MW240_D_191212	Normal	ES1941492-AD	0.05	<0.01	**0.26**	-	0.04	-	0.21	-	-	<0.1	<0.02	0.06	-	<0.02	-	-
				0906_QC101_191212	Field_D	ES1941492-AD	0.04	<0.01	**0.33**	-	0.05	-	0.29	-	-	<0.1	<0.02	0.08	-	<0.02	-	-
			19 Dec 2019	0906_MW240_I_191219	Normal	ES1942606-AB	0.02	<0.01	**0.19**	-	0.03	-	0.17	-	-	<0.1	<0.02	0.04	-	<0.02	-	-
				0906_QC101_191219	Field_D	ES1942606-AB	0.02	<0.01	**0.19**	-	0.03	-	0.17	-	-	<0.1	<0.02	0.05	-	<0.02	-	-
				0906_QC201_191219	Interlab_D	695221	0.01	<0.01	**0.12**	<0.01	0.02	0.01	0.11	<0.01	<0.01	<0.05	0.01	0.03	<0.01	<0.01	<0.01	<0.01
			01 Apr 2020	0906_MW240_20200330	Normal	ES2011453	0.01	<0.01	**0.11**	-	<0.02	<0.02	0.10	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
			30 Sep 2020	0906_MW240_20200930	Normal	ES2034866	0.06	0.02	**0.41**	-	0.04	0.05	0.35	<0.02	<0.02	<0.1	0.02	0.10	-	<0.02	<0.02	<0.02
			20 Apr 2021	0906_MW240_20210420	Normal	ES2116333	0.04	0.01	**0.27**	-	0.04	0.03	0.23	<0.02	<0.02	<0.1	<0.02	0.07	-	<0.02	<0.02	<0.02
			19 Oct 2021	0906_MW240_20211019	Normal	ES2139237	0.04	<0.01	**0.19**	-	0.02	0.02	0.15	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02
			01 May 2022	0906_MW240_20220501	Normal	EM2208150	0.04	<0.01	**0.19**	-	<0.02	0.02	0.15	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW240_20221107	Normal	EM2222399	0.04	<0.01	**0.21**	-	0.02	0.02	0.17	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02
			17 Apr 2023	0906_MW240_20230417	Normal	EM2306921	0.05	<0.01	**0.19**	-	<0.02	<0.02	0.14	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW240_231016	Normal	EM2318614	0.06	<0.01	**0.20**	-	<0.02	<0.02	0.14	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW240_240420	Normal	EM2406730	0.02	<0.01	**0.13**	-	<0.02	<0.02	0.11	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
MW241	Off-base	PO8	18 Mar 2020	0906_MW241_D_200318	Normal	ES2009949	<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
			31 Mar 2020	0906_MW241_20200331	Normal	ES2011462	<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
			01 Oct 2020	0906_MW241_20201001	Normal	ES2034889	<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
			22 Apr 2021	0906_MW241_20210422	Normal	ES2116320	<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
			24 Oct 2021	0906_MW241_20211024	Normal	ES2139236	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW241_20220502	Normal	EM2208340	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW241_20221108	Normal	EM2222383	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Apr 2023	0906_MW241_20230413	Normal	EM2306922	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Oct 2023	0906_MW241_231013	Normal	EM2318617	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			18 Apr 2024	0906_MW241_240418	Normal	EM2406729	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW242	Off-base	PO8	12 Mar 2020	0906_MW242_I_200312	Normal	ES2008845	<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
			31 Mar 2020	0906_MW242_20200331	Normal	ES2011462	<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
			01 Oct 2020	0906_MW242_20201001	Normal	ES2034889	<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
			22 Apr 2021	0906_MW242_20210422	Normal	ES2116320	<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
			22 Oct 2021	0906_MW242_20211022	Normal	ES2139236	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW242_20220502	Normal	EM2208340	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW242_20221108	Normal	EM2222383	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Apr 2023	0906_MW242_20230414	Normal	EM2306922	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Oct 2023	0906_MW242_231013	Normal	EM2318617	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2024	0906_MW242_240418	Normal	EM2406729	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW243	On-base	Base	10 Mar 2020	0906_MW243_I_200310	Normal	ES2008845	<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
				0906_QC201_200310	Interlab_D	707955	<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
			30 Mar 2020	0906_MW243_20200330	Normal	ES2011457	<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
			01 Oct 2020	0906_MW243_20201001	Normal	ES2034862-AB	<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
			23 Apr 2021	0906_MW243_20210423	Normal	ES2116327	<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
				0906_QC106_20210423	Field_D	ES2116327	<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
				0906_QC206_20210423	Interlab_D	792771	<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
			20 Oct 2021	0906_MW243_20211020	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW243_20220502	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW243_20221107	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC103_20221107	Field_D	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC203_20221107	Interlab_D	940477	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
			17 Apr 2023	0906_MW243_20230417	Normal	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_MW243_231014	Normal	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC100_231014	Field_D	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC200_20231014	Interlab_D	1036478	<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
			16 Apr 2024	0906_QC204_240417	Interlab_D	1090100	<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
			17 Apr 2024	0906_MW243_240417	Normal	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC104_240417	Field_D	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW244	Off-base	PO7	13 Mar 2020	0906_MW244_I_200313	Normal	ES2009442	<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
			01 Apr 2020	0906_MW244_20200401	Normal	ES2011562	<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
			01 Oct 2020	0906_MW244_20201001	Normal	ES2034866	<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
			20 Apr 2021	0906_MW244_20210420	Normal	ES2116333	<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
			19 Oct 2021	0906_MW244_20211019	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			03 May 2022	0906_MW244_20220503	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW244_20221109	Normal	EM2222399	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Apr 2023	0906_MW244_20230414	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW244_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_MW244_231014	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC102_231014	Field_D	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC202_20231014	Interlab_D	1036481	<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
			20 Apr 2024	0906_MW244_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW245	Off-base	PO7	13 Mar 2020	0906_MW245_S_200313	Normal	ES2009442	<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
			01 Apr 2020	0906_MW245_20200401	Normal	ES2011562	<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
			01 Oct 2020	0906_MW245_20201001	Normal	ES2034866	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2021	0906_MW245_20210420	Normal	ES2116333	<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
			19 Oct 2021	0906_MW245_20211019	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			30 Apr 2022	0906_MW245_20220430	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW245_20221109	Normal	EM2222399	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Apr 2023	0906_MW245_20230414	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW245_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_MW245_231014	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW245_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW246	Off-base	PO7	22 Jun 2020	0906_MW246_I_200622	Normal	ES2021594	<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
			30 Jul 2020	0906_MW246_I_200730	Normal	ES2026752	<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
				0906_QC202_200730	Normal	735782	<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
			20 Apr 2021	0906_MW246_20210420	Normal	ES2116333	<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
			20 Oct 2021	0906_MW246_20211020	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			01 May 2022	0906_MW246_20220501	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW246_20221107	Normal	EM2222399	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW246_20230415	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW246_231016	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW246_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW247	Off-base	PO7	30 Jul 2020	0906_MW247_I_200730	Normal	ES2026752	<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
			27 Apr 2021	0906_MW247_20210427	Normal	ES2116333	<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
			21 Oct 2021	0906_MW247_20211021	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW247_20220502	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW247_20221109	Normal	EM2222399	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW247_20230415	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW247_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Oct 2023	0906_MW247_231015	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			18 Apr 2024	0906_MW247_240418	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW248	Off-base	PO7	30 Jul 2020	0906_MW248_S_200730	Normal	ES2026752	0.09	0.01	**0.15**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	0.04	0.04	-	0.02	0.02	<0.02
			27 Apr 2021	0906_MW248_20210427	Normal	ES2116333	0.07	<0.01	**0.12**	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Oct 2021	0906_MW248_20211020	Normal	ES2139237	0.08	0.01	**0.14**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	0.03	0.03	-	<0.02	0.03	<0.02
			02 May 2022	0906_MW248_20220502	Normal	EM2208150	0.06	<0.01	**0.10**	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW248_20221109	Normal	EM2222399	0.07	<0.01	**0.12**	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	0.03	0.03	-	<0.02	0.02	<0.02
			15 Apr 2023	0906_MW248_20230415	Normal	EM2306921	0.07	0.01	**0.13**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	0.04	0.03	-	<0.02	0.02	<0.02
			16 Aug 2023	0906_MW248_230816	Normal	EM2314805	0.10	0.01	**0.18**	-	<0.02	<0.02	0.08	<0.02	<0.02	<0.1	0.04	0.04	-	0.02	<0.02	<0.02
			15 Oct 2023	0906_MW248_231015	Normal	EM2318614	0.08	0.01	**0.15**	-	<0.02	<0.02	0.07	<0.02	<0.02	<0.1	0.04	0.04	-	0.02	<0.02	<0.02
			18 Apr 2024	0906_MW248_240418	Normal	EM2406730	0.08	0.01	**0.16**	-	<0.02	<0.02	0.08	<0.02	<0.02	<0.1	0.05	0.04	-	0.02	<0.02	<0.02
MW249	Off-base	PO7	30 Jul 2020	0906_MW249_I_200730	Normal	ES2026752	<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
			28 Apr 2021	0906_MW249_20210428	Normal	ES2116333	<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
			21 Oct 2021	0906_MW249_20211021	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			30 Apr 2022	0906_MW249_20220430	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW249_20221109	Normal	EM2222399	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW249_20230415	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW249_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Oct 2023	0906_MW249_231015	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW249_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW250	Off-base	PO7	30 Jul 2020	0906_MW250_S_200730	Normal	ES2026752	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	0.03	0.02	-	<0.02	<0.02	<0.02
			02 Sep 2020	0906_MW250_S_200902	Normal	ES2031377	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	0.02	0.02	-	<0.02	<0.02	<0.02
				0906_QC202_200902	Interlab_D	742937	0.06	<0.01	**0.1**	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01
			28 Apr 2021	0906_MW250_20210428	Normal	ES2116333	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	0.03	0.02	-	<0.02	<0.02	<0.02
				0906_QC107_20210428	Field_D	ES2116333	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	0.03	0.02	-	<0.02	<0.02	<0.02
				0906_QC207_20210428	Interlab_D	792804	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01
			19 Oct 2021	0906_MW250_20211019	Normal	ES2139237	<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
			09 Nov 2022	0906_MW250_20221109	Normal	EM2222399	<0.01	<0.01	0.01	-	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW250_20230415	Normal	EM2306921	<0.01	<0.01	0.01	-	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW250_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Oct 2023	0906_MW250_231015	Normal	EM2318614	<0.01	<0.01	0.01	-	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW250_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW251	Off-base	PO7	30 Jul 2020	0906_MW251_S_200730	Normal	ES2026752	<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
				0906_QC201_200730	Normal	735782	<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
			22 Apr 2021	0906_MW251_20210422	Normal	ES2118542	<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
			21 Oct 2021	0906_MW251_20211021	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			30 Apr 2022	0906_MW251_20220430	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2023	0906_MW251_20230417	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW251_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_QC205_20231015	Interlab_D	1036481	<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
			15 Oct 2023	0906_MW251_231015	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC105_231015	Field_D	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW251_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW252	Off-base	PO7	30 Jul 2020	0906_MW252_I_200730	Normal	ES2026752	<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
			22 Apr 2021	0906_MW252_20210422	Normal	ES2118542	<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
			19 Oct 2021	0906_MW252_20211019	Normal	ES2139237	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			30 Apr 2022	0906_MW252_20220430	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02

							Perfluorocarbons													
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			17 Apr 2023	0906_MW252_20230417	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Aug 2023	0906_MW252_230816	Normal	EM2314805	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Oct 2023	0906_MW252_231015	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW252_240420	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW253	Off-base	PO7	30 Jul 2020	0906_MW253_I_200730	Normal	ES2026752	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
			20 Apr 2021	0906_MW253_20210420	Normal	ES2116333	<0.01	<0.01	0.04	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Oct 2021	0906_MW253_20211019	Normal	ES2139237	0.02	<0.01	0.05	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC102_20211019	Field_D	ES2139231	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
				0906_QC202_20211019	Interlab_D	837704	0.02	<0.01	0.06	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			30 Apr 2022	0906_MW253_20220430	Normal	EM2208150	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW253_20221107	Normal	EM2222399	<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
			17 Apr 2023	0906_MW253_20230417	Normal	EM2306921	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
			16 Aug 2023	0906_MW253_230816	Normal	EM2314805	0.05	0.01	**0.11**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_QC206_20231015	Interlab_D	1036481	0.04	0.01	**0.1**	-	<0.01	<0.01	0.06	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			15 Oct 2023	0906_MW253_231015	Normal	EM2318614	0.03	<0.01	**0.08**	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC106_231015	Field_D	EM2318614	0.06	0.01	**0.11**	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Dec 2023	0906_MW253_231219	Normal	EM2322880	0.07	0.01	**0.12**	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			20 Apr 2024	0906_MW253_240420	Normal	EM2406730	0.10	<0.01	**0.15**	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW254	Off-base	PO7	30 Jul 2020	0906_MW254_S_200730	Normal	ES2026752	<0.01	0.14	**0.15**	-	0.02	0.03	0.15	<0.02	<0.02	<0.1	0.04	0.07	-	0.06	<0.02	<0.02
			20 Apr 2021	0906_MW254_20210420	Normal	ES2116333	<0.01	0.14	**0.19**	-	0.04	0.03	0.19	<0.02	<0.02	<0.1	0.03	0.06	-	0.05	<0.02	<0.02
			19 Oct 2021	0906_MW254_20211019	Normal	ES2139237	<0.01	0.08	**0.13**	-	0.02	0.02	0.13	<0.02	<0.02	<0.1	0.02	0.04	-	0.04	<0.02	<0.02
				0906_QC101_20211019	Field_D	ES2139231	<0.01	0.12	**0.14**	-	0.02	0.02	0.14	<0.02	<0.02	<0.1	0.03	0.05	-	0.05	<0.02	<0.02
				0906_QC201_20211019	Interlab_D	837704	<0.01	0.13	**0.14**	<0.01	0.02	0.02	0.14	<0.01	<0.01	<0.05	0.03	0.05	<0.01	0.05	<0.01	<0.01
			30 Apr 2022	0906_MW254_20220430	Normal	EM2208150	0.13	0.25	**0.33**	-	0.03	0.03	0.20	<0.02	<0.02	<0.1	0.08	0.09	-	0.08	<0.02	<0.02
			07 Nov 2022	0906_MW254_20221107	Normal	EM2222399	0.02	0.10	**0.14**	-	<0.02	0.02	0.12	<0.02	<0.02	<0.1	<0.02	0.04	-	0.03	<0.02	<0.02
			17 Apr 2023	0906_MW254_20230417	Normal	EM2306921	0.02	0.10	**0.14**	-	<0.02	<0.02	0.12	<0.02	<0.02	<0.1	<0.02	0.04	-	0.04	<0.02	<0.02
			16 Aug 2023	0906_MW254_230816	Normal	EM2314805	0.32	0.14	**0.45**	-	<0.02	<0.02	0.13	<0.02	<0.02	<0.1	0.04	0.05	-	0.04	<0.02	<0.02
			15 Oct 2023	0906_MW254_231015	Normal	EM2318614	0.27	0.14	**0.40**	-	<0.02	<0.02	0.13	<0.02	<0.02	<0.1	0.04	0.05	-	0.04	<0.02	<0.02
			19 Dec 2023	0906_MW254_231219	Normal	EM2322880	0.26	0.15	**0.37**	-	<0.02	<0.02	0.11	<0.02	<0.02	<0.1	0.04	0.06	-	0.04	<0.02	<0.02
			20 Apr 2024	0906_MW254_240420	Normal	EM2406730	0.30	0.15	**0.42**	-	<0.02	<0.02	0.12	<0.02	<0.02	<0.1	0.04	0.05	-	0.04	<0.02	<0.02
MW255	Off-base	PO7	30 Jul 2020	0906_MW255_I_200730	Normal	ES2026752	<0.01	0.02	0.04	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			22 Apr 2021	0906_MW255_20210422	Normal	ES2116333	0.04	<0.01	**0.14**	-	0.02	<0.02	0.10	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 Jul 2021	0906_MW255_02072021	Normal	ES2124834	0.04	<0.01	**0.12**	-	<0.02	<0.02	0.08	<0.02	<0.02	<0.1	<0.02	0.02	-	<0.02	<0.02	<0.02
				0906_QC101_02072021	Field_D	ES2124834	0.03	<0.01	**0.11**	-	<0.02	-	0.08	-	-	<0.1	<0.02	0.02	-	<0.02	-	-
				0906_QC201_210702	Interlab_D	808916	0.04	<0.01	**0.13**	-	-	-	0.09	-	-	-	-	-	-	-	-	-
			19 Oct 2021	0906_MW255_20211019	Normal	ES2139237	0.01	<0.01	0.05	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			30 Apr 2022	0906_MW255_20220430	Normal	EM2208150	<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
			08 Nov 2022	0906_MW255_20221108	Normal	EM2222399	0.02	<0.01	0.07	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC106_20221108	Field_D	EM2222404	0.02	<0.01	0.07	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC206_20221108	Interlab_D	940477	0.04	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
			15 Apr 2023	0906_MW255_20230415	Normal	EM2306921	0.02	<0.01	0.07	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW255_231016	Normal	EM2318614	0.01	<0.01	0.05	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2024	0906_MW255_240417	Normal	EM2406730	0.03	<0.01	**0.11**	-	<0.02	<0.02	0.08	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW256	Off-base	PO7	10 Sep 2020	0906_MW256_S_200910	Normal	ES2032277	0.04	<0.01	**0.32**	-	0.05	0.05	0.28	<0.02	<0.02	<0.1	<0.02	0.09	-	<0.02	<0.02	<0.02
				0906_QC101_200910	Field_D	ES2032277	0.02	<0.01	**0.32**	-	0.06	-	0.30	-	-	<0.1	<0.02	0.10	-	<0.02	-	-
				0906_QC201_200910	Interlab_D	744316	<0.01	<0.01	**0.21**	-	-	-	0.21	-	-	-	-	-	-	-	-	-
			22 Apr 2021	0906_MW256_20210422	Normal	ES2116333	0.07	<0.01	**0.30**	-	0.07	0.04	0.23	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02
			19 Oct 2021	0906_MW256_20211019	Normal	ES2139237	0.01	<0.01	**0.10**	-	<0.02	<0.02	0.09	<0.02	<0.02	<0.1	<0.02	0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW256_20220502	Normal	EM2208150	<0.01	<0.01	0.06	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW256_20221108	Normal	EM2222399	<0.01	<0.01	0.04	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW256_20230415	Normal	EM2306921	<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
			16 Oct 2023	0906_MW256_231016	Normal	EM2318614	<0.01	<0.01	0.05	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2024	0906_MW256_240417	Normal	EM2406730	0.03	<0.01	**0.15**	-	<0.02	<0.02	0.12	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
MW257	Off-base	PO7	10 Sep 2020	0906_MW257_S_200910	Normal	ES2032277	<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
			02 May 2022	0906_MW257_20220502	Normal	EM2208150	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			09 Nov 2022	0906_MW257_20221109	Normal	EM2222399	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW257_20230415	Normal	EM2306921	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Oct 2023	0906_MW257_231016	Normal	EM2318614	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2024	0906_MW257_240417	Normal	EM2406730	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
MW258	GW	PO4	24 Jul 2023	0906_MW258_230724	Normal	ES2325225	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
			11 Aug 2023	0906_MW258_230811	Normal	EM2314653	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
			16 Aug 2023	0906_MW258_230816	Normal	EM2314805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12 Oct 2023	0906_MW258_231012	Normal	EM2318611	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
			19 Dec 2023	0906_MW258_231219	Normal	EM2322880	0.01	<0.01	0.02	-	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW258_240419	Normal	EM2406732	<0.01	<0.01	0.01	-	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW259	GW	PO4	24 Jul 2023	0906_MW259_230724	Normal	ES2325225	0.02	0.01	0.05	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			11 Aug 2023	0906_MW259_230811	Normal	EM2314653	0.02	0.01	0.06	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	0.02	0.02	-	0.03	<0.02	<0.02
			16 Aug 2023	0906_MW259_230816	Normal	EM2314805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12 Oct 2023	0906_MW259_231012	Normal	EM2318611	0.02	0.02	0.06	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	0.02	-	0.02	<0.02	<0.02
			19 Dec 2023	0906_MW259_231219	Normal	EM2322880	0.02	<0.01	0.05	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW259_240419	Normal	EM2406732	0.03	<0.01	0.05	-	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW260	GW		13 Oct 2023	0906_MW260_231013	Normal	EM2318610	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW260_240419	Normal	EM2406723	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW300	On-base	Base	12 Jan 2018	0906_MW300_D_180112	Normal	ES1802545	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Apr 2018	0906_MW300_D_180413	Normal	EM1806331	<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
			30 Mar 2020	0906_MW300_20200330	Normal	ES2011457	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			29 Sep 2020	0906_MW300_20200929	Normal	ES2034862-AB	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			22 Apr 2021	0906_MW300_20210422	Normal	ES2116327	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC105_20210422	Field_D	ES2116327	<0.01	<0.01	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC205_20210422	Interlab_D	792803	<0.01	<0.01	0.02	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
			20 Oct 2021	0906_MW300_20211020	Normal	ES2139228	<0.01	<0.01	0.05	-	0.04	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
				0906_QC106_20211020	Field_D	ES2139231	<0.01	<0.01	0.05	-	0.04	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
				0906_QC206_20211020	Interlab_D	837704	<0.01	<0.01	0.07	<0.01	0.04	0.02	0.07	<0.01	<0.01	<0.05	0.01	0.03	<0.01	<0.01	<0.01	<0.01
			01 May 2022	0906_MW300_20220501	Normal	EM2208338	<0.01	<0.01	**0.10**	-	0.05	0.03	0.10	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
				0906_QC102_20220501	Field_D	EM2208338	<0.01	<0.01	**0.10**	-	0.06	0.03	0.10	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02
				0906_QC202_20220501	Interlab_D	889634	<0.01	<0.01	**0.13**	<0.01	0.08	0.03	0.13	<0.01	<0.01	<0.05	0.02	0.06	0.02	<0.01	<0.01	<0.01
			07 Nov 2022	0906_MW300_20221107	Normal	EM2222404	<0.01	<0.01	**0.13**	-	0.10	0.04	0.13	<0.02	<0.02	<0.1	0.02	0.06	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW300_20230415	Normal	EM2306945	0.01	<0.01	**0.15**	-	0.11	0.06	0.14	<0.02	<0.02	<0.1	0.03	0.08	-	<0.02	<0.02	<0.02
				0906_QC103_20230415	Field_D	EM2306945	0.01	<0.01	**0.14**	-	0.12	0.05	0.13	<0.02	<0.02	<0.1	0.03	0.09	-	<0.02	<0.02	<0.02
				0906_QC203_20230415	Interlab_D	982807	0.02	<0.01	**0.2**	-	0.14	0.06	0.18	<0.01	<0.01	<0.05	0.03	0.10	0.05	0.01	<0.01	<0.01
			24 Jul 2023	0906_MW300_230724	Normal	ES2325225	0.02	<0.01	**0.16**	-	0.14	0.05	0.14	<0.02	<0.02	<0.1	0.03	0.09	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_MW300_231014	Normal	EM2318641	0.02	<0.01	**0.18**	-	0.14	0.06	0.16	<0.02	<0.02	<0.1	0.03	0.10	-	<0.02	<0.02	<0.02
			17 Apr 2024	0906_MW300_240417	Normal	EM2406727	0.02	<0.01	**0.15**	-	0.10	0.04	0.13	<0.02	<0.02	<0.1	<0.02	0.06	-	<0.02	<0.02	<0.02
MW302	On-base	Base	12 Jan 2018	0906_MW302_D_180112	Normal	ES1802545	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
			11 Apr 2018	0906_MW302_D_180411	Normal	EM1806331	<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
			30 Mar 2020	0906_MW302_20200330	Normal	ES2011457	<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
			29 Sep 2020	0906_MW302_20200929	Normal	ES2034862-AB	<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
				0906_QC102_20200929	Field_D	ES2034862-AB	<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
				0906_QC202_20200929	Interlab_D	749220	<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
			21 Apr 2021	0906_MW302_20210421	Normal	ES2116327	<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
				0906_QC103_20210421	Field_D	ES2116327	<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
				0906_QC203_20210421	Interlab_D	792803	<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
			20 Oct 2021	0906_MW302_20211020	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC107_20211020	Field_D	ES2139231	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC207_20211020	Interlab_D	837704	<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
			01 May 2022	0906_MW302_20220501	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC105_20220501	Field_D	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC205_20220501	Interlab_D	889634	<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
			07 Nov 2022	0906_MW302_20221107	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC104_20221107	Field_D	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC204_20221107	Interlab_D	940477	<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
			15 Apr 2023	0906_MW302_20230415	Normal	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC104_20230415	Field_D	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC204_20230415	Interlab_D	982807	<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
			14 Oct 2023	0906_MW302_231014	Normal	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC101_231014	Field_D	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC201_20231014	Interlab_D	1036478	<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
			16 Apr 2024	0906_QC205_240417	Interlab_D	1090100	<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

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			17 Apr 2024	0906_MW302_240417	Normal	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC105_240417	Field_D	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW304	On-base	Base	16 Jan 2018	0906_MW304_D_180116	Normal	ES1802545	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
			13 Apr 2018	0906_MW304_D_180413	Normal	EM1806331	<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
			31 Mar 2020	0906_MW304_20200331	Normal	ES2011457	<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
			29 Sep 2020	0906_MW304_20200929	Normal	ES2034862-AB	<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
			28 Apr 2021	0906_MW304_20210428	Normal	ES2116327	<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
			20 Oct 2021	0906_MW304_20211020	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			01 May 2022	0906_MW304_20220501	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC104_20220501	Field_D	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC204_20220501	Interlab_D	889634	<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
			07 Nov 2022	0906_MW304_20221107	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			15 Apr 2023	0906_MW304_20230415	Normal	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Oct 2023	0906_MW304_231014	Normal	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Apr 2024	0906_QC207_240419	Interlab_D	1090100	<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
			19 Apr 2024	0906_MW304_240419	Normal	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC107_240419	Field_D	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW306	On-base	Base	16 Jan 2018	0906_MW306_D_180116	Normal	ES1802545	<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
			12 Apr 2018	0906_MW306_D_180412	Normal	EM1806331	<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
			30 Mar 2020	0906_MW306_20200330	Normal	ES2011457	<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
			29 Sep 2020	0906_MW306_20200929	Normal	ES2034862-AB	<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
			22 Apr 2021	0906_MW306_20210422	Normal	ES2116327	<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
			22 Oct 2021	0906_MW306_20211022	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW306_20220502	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			07 Nov 2022	0906_MW306_20221107	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			14 Apr 2023	0906_MW306_20230414	Normal	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC101_20230414	Field_D	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC201_20230414	Interlab_D	982807	<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
			16 Oct 2023	0906_MW306_231016	Normal	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	0906_MW306_240419	Normal	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW308	On-base	Base	15 Jan 2018	0906_MW308_D_180115	Normal	ES1802545	<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
				0906_QC103_180115	Field_D	ES1802545	<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
				0906_QC203_180115	Interlab_D	581313	<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
			11 Apr 2018	0906_MW308_D_180411	Normal	EM1806331	<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
			30 Mar 2020	0906_MW308_20200330	Normal	ES2011457	<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
			29 Sep 2020	0906_MW308_20200929	Normal	ES2034862-AB	<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
			21 Apr 2021	0906_MW308_20210421	Normal	ES2116327	<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
			22 Apr 2021	0906_MW308_20210422	Normal	ES2116327	<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
			21 Oct 2021	0906_MW308_20211021	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			01 May 2022	0906_MW308_20220501	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC103_20220501	Field_D	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC203_20220501	Interlab_D	889634	<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
			07 Nov 2022	0906_MW308_20221107	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC105_20221107	Field_D	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC205_20221107	Interlab_D	940477	<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
			17 Apr 2023	0906_MW308_20230417	Normal	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC106_20230417	Field_D	EM2306945	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC206_20230417	Interlab_D	982807	<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
			14 Oct 2023	0906_MW308_231014	Normal	EM2318641	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2024	0906_MW308_240417	Normal	EM2406727	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW309	On-base	Base	21 Apr 2021	0906_MW309_20210421	Normal	ES2116327	0.04	0.03	0.04	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02
MW310	On-base	Base	16 Jan 2018	0906_MW310_D_180116	Normal	ES1802545	<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
			12 Apr 2018	0906_MW310_D_180412	Normal	EM1806331	<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
			31 Mar 2020	0906_MW310_20200331	Normal	ES2011457	<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
			30 Sep 2020	0906_MW310_20200930	Normal	ES2034862-AB	<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
			22 Apr 2021	0906_MW310_20210422	Normal	ES2116327	<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
			22 Oct 2021	0906_MW310_20211022	Normal	ES2139228	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			02 May 2022	0906_MW310_20220502	Normal	EM2208338	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	0906_MW310_20221108	Normal	EM2222404	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02

							Perfluorocarbons												
							Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)
							µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water								**0.56**	**0.07**													
PFAS NEMP 2.0 Table 1 Health Recreational Water								*10*	*2*													
PFAS NEMP 2.0 Table 5 Freshwater 95%							0.13	220														
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
			13 Apr 2023	**0906_MW310_20230413**	**Normal**	**EM2306945**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Oct 2023	**0906_MW310_231017**	**Normal**	**EM2318641**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Apr 2024	**0906_QC209_240419**	**Interlab_D**	**1090100**	<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
			19 Apr 2024	**0906_MW310_240419**	**Normal**	**EM2406727**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC109_240419	**Field_D**	**EM2406727**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW311	**On-base**	**Base**	**15 Jan 2018**	**0906_MW311_I_180115**	**Normal**	**ES1802545**	0.01	<0.01	0.04	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC101_180115	**Field_D**	**ES1802545**	<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
				0906_QC201_180115	**Interlab_D**	**581313**	<0.01	<0.01	0.04	-	<0.01	<0.01	0.04	<0.01	<0.01	<0.05	<0.01	<0.01	-	<0.01	<0.01	<0.01
			31 Mar 2020	**0906_MW311_20200331**	**Normal**	**ES2011457**	<0.01	<0.01	0.04	-	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	**0906_MW311_20221108**	**Normal**	**EM2222404**	<0.01	<0.01	**0.49**	-	0.05	0.06	0.49	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Apr 2023	**0906_MW311_20230413**	**Normal**	**EM2306945**	<0.01	<0.01	**0.43**	-	0.04	0.06	0.43	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Oct 2023	**0906_MW311_2310117**	**Normal**	**EM2318641**	<0.01	<0.01	**0.48**	-	0.03	0.05	0.48	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			16 Apr 2024	**0906_QC208_240419**	**Interlab_D**	**1090100**	<0.01	<0.01	**0.45**	-	0.04	0.05	0.45	<0.01	<0.01	<0.05	<0.01	0.02	0.01	<0.01	<0.01	<0.01
			19 Apr 2024	**0906_MW311_240419**	**Normal**	**EM2406727**	<0.01	<0.01	**0.42**	-	0.05	0.04	0.42	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
				0906_QC108_240419	**Field_D**	**EM2406727**	<0.01	<0.01	**0.42**	-	0.04	0.05	0.42	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
MW312	**Off-base**	**PO9**	**16 Jan 2018**	**0906_MW312_D_180115**	**Normal**	**ES1802566**	0.02	<0.01	**0.10**	-	<0.02	<0.02	0.08	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Apr 2018	**0906_MW312_D_180413**	**Normal**	**EM1806331**	0.02	<0.01	**0.08**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			01 Apr 2020	**0906_MW312_200401**	**Normal**	**ES2011454**	0.01	<0.01	0.07	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			01 Oct 2020	**0906_MW312_20201001**	**Normal**	**ES2034888**	0.01	<0.01	0.06	-	<0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			21 Oct 2021	**0906_MW312_20211021**	**Normal**	**ES2139399**	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
			03 May 2022	**0906_MW312_20220503**	**Normal**	**EM2208339**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			08 Nov 2022	**0906_MW312_20221108**	**Normal**	**EM2222499**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			17 Apr 2023	**0906_MW312_20230417**	**Normal**	**EM2306923**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			13 Oct 2023	**0906_MW312_231013**	**Normal**	**EM2318618**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02
			19 Apr 2024	**0906_MW312_240419**	**Normal**	**EM2406728**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02

								Perfluorocarbons														
								Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
								µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR								0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																									
PFAS NEMP 2.0 Table 1 Health Recreational Water																									
PFAS NEMP 2.0 Table 5 Freshwater 95%																									
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																			
MW200	**Off-base**	**PO1**	**07 Jul 2017**	**0906_GW200_D_07072017**	**Normal**	**ES1716876**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	4.62	-	-
			25 Mar 2020	**0906_MW200_20200325**	**Normal**	**ES2011455**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.70	-	-
			30 Sep 2020	**0906_MW200_20200930**	**Normal**	**ES2034893**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.30	-	-
			23 Apr 2021	**0906_MW200_20210423**	**Normal**	**ES2116296**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.04	-	-
			21 Oct 2021	**0906_MW200_20211021**	**Normal**	**ES2139300**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.29	-	-
			03 May 2022	**0906_MW200_20220503**	**Normal**	**EM2208337**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.33	-	-
			08 Nov 2022	**0906_MW200_20221108**	**Normal**	**EM2222380**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.33	-	-
			13 Apr 2023	**0906_MW200_20230413**	**Normal**	**EM2306915**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.41	-	-
			13 Oct 2023	**0906_MW200_231013**	**Normal**	**EM2318608**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.29	-	-
			18 Apr 2024	**0906_MW200_240418**	**Normal**	**EM2406725**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.18	-	-
MW204	**Off-base**	**PO1**	**07 Jul 2017**	**0906_GW204_D_07072017**	**Normal**	**ES1716876**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-
				0906_QC101_07072017	**Field_D**	**ES1716876**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08	-	-
				0906_QC201_07072017	**Interlab_D**	**553701**		<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	-	-	-
			18 Jan 2018	**0906_MW204_D_180118**	**Normal**	**ES1802488**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-
						ES1803668		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				0906_QC101_180118	**Field_D**	**ES1802488**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
				0906_QC201_180118	**Interlab_D**	**581448**		<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	-
			20 Feb 2018	**0906_MW204_D_180220**	**Normal**	**ES1805693**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
			30 Mar 2020	**0906_MW204_20200330**	**Normal**	**ES2011455**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	**0906_MW204_20201001**	**Normal**	**ES2034893**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			23 Apr 2021	**0906_MW204_20210423**	**Normal**	**ES2116296**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	**0906_MW204_20211021**	**Normal**	**ES2139300**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			03 May 2022	**0906_MW204_20220503**	**Normal**	**EM2208337**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	**0906_MW204_20221109**	**Normal**	**EM2222380**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Apr 2023	**0906_MW204_20230413**	**Normal**	**EM2306915**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Oct 2023	**0906_MW204_231013**	**Normal**	**EM2318608**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2024	**0906_MW204_240418**	**Normal**	**EM2406725**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW209	**Off-base**	**PO2**	**07 Sep 2017**	**0906_GW209_D_170907**	**Normal**	**EM1712263**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_170907	**Field_D**	**EM1712263**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_170907	**Interlab_D**	**562566**		<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	-
			12 Jan 2018	**0906_MW209_D_180112**	**Normal**	**ES1801990**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			31 Mar 2020	**0906_MW209_20200331**	**Normal**	**ES2011456**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Sep 2020	**0906_MW209_20200930**	**Normal**	**ES2034898**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	**0906_MW209_20210422**	**Normal**	**ES2116325**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	**0906_MW209_20211021**	**Normal**	**ES2139301**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			03 May 2022	**0906_MW209_20220503**	**Normal**	**EM2208336**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	**0906_MW209_20221109**	**Normal**	**EM2222392**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2023	**0906_MW209_20230418**	**Normal**	**EM2306916**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Oct 2023	**0906_MW209_231016**	**Normal**	**EM2318609**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	**0906_MW209_240419**	**Normal**	**EM2406724**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW210	**Off-base**	**PO3**	**20 Jun 2017**	**0906_0S002_170620**	**Normal**	**ES1715329**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_170620	**Field_D**	**ES1715329**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_170620	**Interlab_D**	**551365**		<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	-	-	-
			18 Jan 2018	**0906_MW210_D_180112**	**Normal**	**ES1802470**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			21 Feb 2018	**0906_MW210_D_180221**	**Normal**	**ES1805664**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Jul 2018	**0906_MW210_D_180717**	**Normal**	**EM1811457**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_180717	**Field_D**	**EM1811457**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_180717	**Interlab_D**	**608455**		<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			26 Mar 2020	**0906_MW210_20200326**	**Normal**	**ES2011461**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	**0906_MW210_20201001**	**Normal**	**ES2034897**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			23 Apr 2021	**0906_MW210_20210423**	**Normal**	**ES2116321**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	**0906_MW210_20211021**	**Normal**	**ES2139302**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			03 May 2022	**0906_MW210_20220503**	**Normal**	**EM2208335**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	**0906_MW210_20221108**	**Normal**	**EM2222395**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2023	**0906_MW210_20230418**	**Normal**	**EM2306917**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW211	**Off-base**	**PO4**	**20 Jun 2017**	**0906_EWB1_170620**	**Normal**	**ES1715334**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			04 Dec 2017	**0906_EWB1_171204**	**Normal**	**ES1731229**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			27 Mar 2020	**0906_MW211_20200327**	**Normal**	**ES2011459**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			28 Sep 2020	**0906_MW211_20200928**	**Normal**	**ES2034885**		<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

							Perfluorocarbons															
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			20 Apr 2021	0906_MW211_20210420	Normal	ES2116324	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Oct 2021	0906_MW211_20211020	Normal	ES2139303	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW211_20221108	Normal	EM2222397	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			12 Oct 2023	0906_MW211_231012	Normal	EM2318611	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2024	0906_MW211_240415	Normal	EM2406732	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW212	Off-base	PO4	20 Jun 2017	0906_EWB2_170620	Normal	ES1715334	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			04 Dec 2017	0906_EWB2_171204	Normal	ES1731229	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			27 Mar 2020	0906_MW212_20200327	Normal	ES2011459	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			28 Sep 2020	0906_MW212_20200928	Normal	ES2034885	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2021	0906_MW212_20210420	Normal	ES2116324	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Oct 2021	0906_MW212_20211020	Normal	ES2139303	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW212_20220502	Normal	EM2208334	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW212_20221109	Normal	EM2222397	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			12 Oct 2023	0906_MW212_231012	Normal	EM2318611	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2024	0906_MW212_240415	Normal	EM2406732	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW213	Off-base	PO4	20 Jun 2017	0906_EWB3_170620	Normal	ES1715334	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			04 Dec 2017	0906_EWB3_171204	Normal	ES1731229	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			27 Mar 2020	0906_MW213_20200327	Normal	ES2011459	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_20200327	Field_D	ES2011459	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_20200327	Interlab_D	712442	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			28 Sep 2020	0906_MW213_20200928	Normal	ES2034885	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_20200928	Field_D	ES2034862-AA	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_20200928	Interlab_D	749083	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			20 Apr 2021	0906_MW213_20210420	Normal	ES2116324	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Oct 2021	0906_MW213_20211020	Normal	ES2139303	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC104_20211020	Field_D	ES2139231	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC204_20211020	Interlab_D	837704	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			02 May 2022	0906_MW213_20220502	Normal	EM2208334	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			12 Oct 2023	0906_MW213_231012	Normal	EM2318611	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2024	0906_MW213_240415	Normal	EM2406732	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW214	Off-base	Base	20 Jun 2017	0906_GW047279_170620	Normal	ES1715334	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Jan 2018	0906_MW214_D_180118	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			31 Mar 2020	0906_MW214_20200331	Normal	ES2011568	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	0906_MW214_20201001	Normal	ES2034891	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			27 Apr 2021	0906_MW214_20210427	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW214_20211021	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			04 May 2022	0906_MW214_20220503	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			07 Nov 2022	0906_MW214_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Apr 2023	0906_MW214_20230414	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Oct 2023	0906_MW214_231016	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Apr 2024	0906_MW214_240417	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW215	Off-base	Base	20 Jun 2017	0906_GW047281_170620	Normal	ES1715334	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.06	-	-
			16 Jan 2018	0906_MW215_D_180116	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW231	Off-base	PO2	12 Jan 2018	0906_MW231_D_180112	Normal	ES1802473	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			26 Mar 2020	0906_MW231_20200326	Normal	ES2011456	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
						ES2011459	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Sep 2020	0906_MW231_20200930	Normal	ES2034898	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			23 Apr 2021	0906_MW231_20210423	Normal	ES2116325	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Oct 2021	0906_MW231_20211022	Normal	ES2139301	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			04 May 2022	0906_MW231_20220504	Normal	EM2208336	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	0906_MW231_20221109	Normal	EM2222392	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2023	0906_MW231_20230418	Normal	EM2306916	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Oct 2023	0906_MW231_231016	Normal	EM2318609	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	0906_MW231_240419	Normal	EM2406724	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW233	Off-base	PO5	20 Feb 2018	0906_MW233_I_180220	Normal	ES1805656	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.20	-	-
			25 Mar 2020	0906_MW233_20200325	Normal	ES2011451	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.43	-	-
			30 Sep 2020	0906_MW233_20200930	Normal	ES2034890	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.54	-	-
			22 Apr 2021	0906_MW233_20210422	Normal	ES2116319	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.47	-	-
			19 Oct 2021	0906_MW233_20211019	Normal	ES2139304	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.64	-	-

							Perfluorocarbons														
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			02 May 2022	0906_MW233_20220502	Normal	EM2208333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.47	-	-
			07 Nov 2022	0906_MW233_20221107	Normal	EM2222376	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.57	-	-
			13 Apr 2023	0906_MW233_ 20230413	Normal	EM2306918	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.52	-	-
			16 Oct 2023	0906_MW233_231016	Normal	EM2318613	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.42	-	-
			19 Apr 2024	0906_MW233_240419	Normal	EM2406731	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.36	-	-
MW235	Off-base	PO6	11 Jan 2018	0906_MW235_D_180111	Normal	ES1802460	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Dec 2019	0906_MW235_D_191219	Normal	ES1942606-AC	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
			27 Mar 2020	0906_MW235_20200327	Normal	ES2011450	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Sep 2020	0906_MW235_20200930	Normal	ES2034899	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2021	0906_MW235_20210420	Normal	ES2115488	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Oct 2021	0906_MW235_20211020	Normal	ES2139305	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 May 2022	0906_MW235_20220501	Normal	EM2208341	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			07 Nov 2022	0906_MW235_20221107	Normal	EM2222377	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Apr 2023	0906_MW235_20230413	Normal	EM2306920	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW238	Off-base	PO2	21 Nov 2019	0906_MW238_18_191121	Normal	ES1939538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				0906_MW238_36_191121	Normal	ES1939538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12 Dec 2019	0906_MW238_I_191212	Normal	ES1941492-AC	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
			30 Mar 2020	0906_MW238_20200330	Normal	ES2011456	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Sep 2020	0906_MW238_20200930	Normal	ES2034898	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			23 Apr 2021	0906_MW238_20210423	Normal	ES2116325	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW238_20211021	Normal	ES2139301	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			03 May 2022	0906_MW238_20220503	Normal	EM2208336	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			08 Nov 2022	0906_MW238_20221108	Normal	EM2222392	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2023	0906_MW238_20230418	Normal	EM2306916	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Oct 2023	0906_MW238_231015	Normal	EM2318609	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	0906_MW238_240419	Normal	EM2406724	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW239	Off-base	PO2	12 Dec 2019	0906_MW239_S_191212	Normal	ES1941492-AC	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
			30 Mar 2020	0906_MW239_20200330	Normal	ES2011456	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	0906_MW239_20201001	Normal	ES2034898	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			23 Apr 2021	0906_MW239_20210423	Normal	ES2116325	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW239_20211021	Normal	ES2139301	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			03 May 2022	0906_MW239_20220503	Normal	EM2208336	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW239_20221108	Normal	EM2222392	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2023	0906_MW239_20230418	Normal	EM2306916	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Oct 2023	0906_MW239_231015	Normal	EM2318609	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	0906_MW239_240419	Normal	EM2406724	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW240	Off-base	PO7	12 Dec 2019	0906_MW240_D_191212	Normal	ES1941492-AD	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
				0906_QC101_191212	Field_D	ES1941492-AD	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
			19 Dec 2019	0906_MW240_I_191219	Normal	ES1942606-AB	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
				0906_QC101_191219	Field_D	ES1942606-AB	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
				0906_QC201_191219	Interlab_D	695221	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.19	0.01	0.12
			01 Apr 2020	0906_MW240_20200330	Normal	ES2011453	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.14	-	-
			30 Sep 2020	0906_MW240_20200930	Normal	ES2034866	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.64	-	-
			20 Apr 2021	0906_MW240_20210420	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.42	-	-
			19 Oct 2021	0906_MW240_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.28	-	-
			01 May 2022	0906_MW240_20220501	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.25	-	-
			07 Nov 2022	0906_MW240_20221107	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.30	-	-
			17 Apr 2023	0906_MW240_20230417	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.23	-	-
			16 Oct 2023	0906_MW240_231016	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.23	-	-
			20 Apr 2024	0906_MW240_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.16	-	-
MW241	Off-base	PO8	18 Mar 2020	0906_MW241_D_200318	Normal	ES2009949	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			31 Mar 2020	0906_MW241_20200331	Normal	ES2011462	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.15	<0.05	<0.05	0.15	-	-
			01 Oct 2020	0906_MW241_20201001	Normal	ES2034889	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	0906_MW241_20210422	Normal	ES2116320	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	<0.05	<0.05	0.12	-	-
			24 Oct 2021	0906_MW241_20211024	Normal	ES2139236	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW241_20220502	Normal	EM2208340	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW241_20221108	Normal	EM2222383	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Apr 2023	0906_MW241_20230413	Normal	EM2306922	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Oct 2023	0906_MW241_231013	Normal	EM2318617	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

							Perfluorocarbons															
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			18 Apr 2024	0906_MW241_240418	Normal	EM2406729	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW242	Off-base	PO8	12 Mar 2020	0906_MW242_I_200312	Normal	ES2008845	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			31 Mar 2020	0906_MW242_20200331	Normal	ES2011462	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	0906_MW242_20201001	Normal	ES2034889	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	0906_MW242_20210422	Normal	ES2116320	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Oct 2021	0906_MW242_20211022	Normal	ES2139236	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW242_20220502	Normal	EM2208340	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW242_20221108	Normal	EM2222383	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Apr 2023	0906_MW242_20230414	Normal	EM2306922	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Oct 2023	0906_MW242_231013	Normal	EM2318617	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2024	0906_MW242_240418	Normal	EM2406729	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW243	On-base	Base	10 Mar 2020	0906_MW243_I_200310	Normal	ES2008845	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_200310	Interlab_D	707955	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			30 Mar 2020	0906_MW243_20200330	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	0906_MW243_20201001	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			23 Apr 2021	0906_MW243_20210423	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC106_20210423	Field_D	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC206_20210423	Interlab_D	792771	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			20 Oct 2021	0906_MW243_20211020	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW243_20220502	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			07 Nov 2022	0906_MW243_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC103_20221107	Field_D	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC203_20221107	Interlab_D	940477	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	0.01	0.01
			17 Apr 2023	0906_MW243_20230417	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Oct 2023	0906_MW243_231014	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC100_231014	Field_D	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC200_20231014	Interlab_D	1036478	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			16 Apr 2024	0906_QC204_240417	Interlab_D	1090100	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			17 Apr 2024	0906_MW243_240417	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC104_240417	Field_D	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW244	Off-base	PO7	13 Mar 2020	0906_MW244_I_200313	Normal	ES2009442	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Apr 2020	0906_MW244_20200401	Normal	ES2011562	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 Oct 2020	0906_MW244_20201001	Normal	ES2034866	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2021	0906_MW244_20210420	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Oct 2021	0906_MW244_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			03 May 2022	0906_MW244_20220503	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	0906_MW244_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Apr 2023	0906_MW244_20230414	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Aug 2023	0906_MW244_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Oct 2023	0906_MW244_231014	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC102_231014	Field_D	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC202_20231014	Interlab_D	1036481	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			20 Apr 2024	0906_MW244_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW245	Off-base	PO7	13 Mar 2020	0906_MW245_S_200313	Normal	ES2009442	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			01 Apr 2020	0906_MW245_20200401	Normal	ES2011562	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			01 Oct 2020	0906_MW245_20201001	Normal	ES2034866	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			20 Apr 2021	0906_MW245_20210420	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			19 Oct 2021	0906_MW245_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Apr 2022	0906_MW245_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	0906_MW245_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Apr 2023	0906_MW245_20230414	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Aug 2023	0906_MW245_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Oct 2023	0906_MW245_231014	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2024	0906_MW245_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW246	Off-base	PO7	22 Jun 2020	0906_MW246_I_200622	Normal	ES2021594	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Jul 2020	0906_MW246_I_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC202_200730	Normal	735782	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			20 Apr 2021	0906_MW246_20210420	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Oct 2021	0906_MW246_20211020	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

							Perfluorocarbons														
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			01 May 2022	0906_MW246_20220501	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			07 Nov 2022	0906_MW246_20221107	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2023	0906_MW246_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Oct 2023	0906_MW246_231016	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2024	0906_MW246_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW247	Off-base	PO7	30 Jul 2020	0906_MW247_I_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			27 Apr 2021	0906_MW247_20210427	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW247_20211021	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW247_20220502	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	0906_MW247_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2023	0906_MW247_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Aug 2023	0906_MW247_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Oct 2023	0906_MW247_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			18 Apr 2024	0906_MW247_240418	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW248	Off-base	PO7	30 Jul 2020	0906_MW248_S_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.28	-	-
			27 Apr 2021	0906_MW248_20210427	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.14	-	-
			20 Oct 2021	0906_MW248_20211020	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.24	-	-
			02 May 2022	0906_MW248_20220502	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12	-	-
			09 Nov 2022	0906_MW248_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.20	-	-
			15 Apr 2023	0906_MW248_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.23	-	-
			16 Aug 2023	0906_MW248_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.29	-	-
			15 Oct 2023	0906_MW248_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.26	-	-
			18 Apr 2024	0906_MW248_240418	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.28	-	-
MW249	Off-base	PO7	30 Jul 2020	0906_MW249_I_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			28 Apr 2021	0906_MW249_20210428	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW249_20211021	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Apr 2022	0906_MW249_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	0906_MW249_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2023	0906_MW249_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Aug 2023	0906_MW249_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Oct 2023	0906_MW249_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2024	0906_MW249_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW250	Off-base	PO7	30 Jul 2020	0906_MW250_S_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08	-	-
			02 Sep 2020	0906_MW250_S_200902	Normal	ES2031377	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-
				0906_QC202_200902	Interlab_D	742937	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.14	0.06	0.1
			28 Apr 2021	0906_MW250_20210428	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08	-	-
				0906_QC107_20210428	Field_D	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08	-	-
				0906_QC207_20210428	Interlab_D	792804	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	0.02
			19 Oct 2021	0906_MW250_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
			09 Nov 2022	0906_MW250_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-
			15 Apr 2023	0906_MW250_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-
			16 Aug 2023	0906_MW250_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Oct 2023	0906_MW250_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			20 Apr 2024	0906_MW250_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW251	Off-base	PO7	30 Jul 2020	0906_MW251_S_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_200730	Normal	735782	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			22 Apr 2021	0906_MW251_20210422	Normal	ES2118542	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW251_20211021	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Apr 2022	0906_MW251_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Apr 2023	0906_MW251_20230417	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Aug 2023	0906_MW251_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Oct 2023	0906_QC205_20231015	Interlab_D	1036481	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			15 Oct 2023	0906_MW251_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC105_231015	Field_D	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Apr 2024	0906_MW251_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW252	Off-base	PO7	30 Jul 2020	0906_MW252_I_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	0906_MW252_20210422	Normal	ES2118542	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Oct 2021	0906_MW252_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Apr 2022	0906_MW252_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

							Perfluorocarbons															
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			17 Apr 2023	0906_MW252_20230417	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Aug 2023	0906_MW252_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Oct 2023	0906_MW252_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	<0.05	<0.05	0.12	-	-
			20 Apr 2024	0906_MW252_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW253	Off-base	PO7	30 Jul 2020	0906_MW253_I_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			20 Apr 2021	0906_MW253_20210420	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
			19 Oct 2021	0906_MW253_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
				0906_QC102_20211019	Field_D	ES2139231	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
				0906_QC202_20211019	Interlab_D	837704	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	0.02	0.06
			30 Apr 2022	0906_MW253_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			07 Nov 2022	0906_MW253_20221107	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			17 Apr 2023	0906_MW253_20230417	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
			16 Aug 2023	0906_MW253_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12	-	-
			14 Oct 2023	0906_QC206_20231015	Interlab_D	1036481	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.11	0.05	0.11
			15 Oct 2023	0906_MW253_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08	-	-
				0906_QC106_231015	Field_D	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12	-	-
			19 Dec 2023	0906_MW253_231219	Normal	EM2322880	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.13	-	-
			20 Apr 2024	0906_MW253_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.15	-	-
MW254	Off-base	PO7	30 Jul 2020	0906_MW254_S_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.51	-	-
			20 Apr 2021	0906_MW254_20210420	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.54	-	-
			19 Oct 2021	0906_MW254_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.05	<0.05	0.43	-	-
				0906_QC101_20211019	Field_D	ES2139231	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.43	-	-
				0906_QC201_20211019	Interlab_D	837704	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.44	0.13	0.27
			30 Apr 2022	0906_MW254_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.89	-	-
			07 Nov 2022	0906_MW254_20221107	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.33	-	-
			17 Apr 2023	0906_MW254_20230417	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.32	-	-
			16 Aug 2023	0906_MW254_230816	Normal	EM2314805	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.72	-	-
			15 Oct 2023	0906_MW254_231015	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.67	-	-
			19 Dec 2023	0906_MW254_231219	Normal	EM2322880	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.66	-	-
			20 Apr 2024	0906_MW254_240420	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.70	-	-
MW255	Off-base	PO7	30 Jul 2020	0906_MW255_I_200730	Normal	ES2026752	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.06	-	-
			22 Apr 2021	0906_MW255_20210422	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.16	-	-
			02 Jul 2021	0906_MW255_02072021	Normal	ES2124834	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.14	-	-
				0906_QC101_02072021	Field_D	ES2124834	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
				0906_QC201_210702	Interlab_D	808916	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	0.04	0.13
			19 Oct 2021	0906_MW255_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
			30 Apr 2022	0906_MW255_20220430	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			08 Nov 2022	0906_MW255_20221108	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-
				0906_QC106_20221108	Field_D	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-
				0906_QC206_20221108	Interlab_D	940477	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	0.04	0.04
			15 Apr 2023	0906_MW255_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-
			16 Oct 2023	0906_MW255_231016	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
			17 Apr 2024	0906_MW255_240417	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.11	-	-
MW256	Off-base	PO7	10 Sep 2020	0906_MW256_S_200910	Normal	ES2032277	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.51	-	-
				0906_QC101_200910	Field_D	ES2032277	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	-
				0906_QC201_200910	Interlab_D	744316	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	<0.01	0.21
			22 Apr 2021	0906_MW256_20210422	Normal	ES2116333	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.46	-	-
			19 Oct 2021	0906_MW256_20211019	Normal	ES2139237	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12	-	-
			02 May 2022	0906_MW256_20220502	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.06	-	-
			08 Nov 2022	0906_MW256_20221108	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
			15 Apr 2023	0906_MW256_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			16 Oct 2023	0906_MW256_231016	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
			17 Apr 2024	0906_MW256_240417	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.18	-	-
MW257	Off-base	PO7	10 Sep 2020	0906_MW257_S_200910	Normal	ES2032277	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW257_20220502	Normal	EM2208150	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			09 Nov 2022	0906_MW257_20221109	Normal	EM2222399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2023	0906_MW257_20230415	Normal	EM2306921	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Oct 2023	0906_MW257_231016	Normal	EM2318614	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Apr 2024	0906_MW257_240417	Normal	EM2406730	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

							Perfluorocarbons														
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
MW258	GW	PO4	24 Jul 2023	0906_MW258_230724	Normal	ES2325225	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			11 Aug 2023	0906_MW258_230811	Normal	EM2314653	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			16 Aug 2023	0906_MW258_230816	Normal	EM2314805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12 Oct 2023	0906_MW258_231012	Normal	EM2318611	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			19 Dec 2023	0906_MW258_231219	Normal	EM2322880	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-
			19 Apr 2024	0906_MW258_240419	Normal	EM2406732	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-
MW259	GW	PO4	24 Jul 2023	0906_MW259_230724	Normal	ES2325225	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.06	-	-
			11 Aug 2023	0906_MW259_230811	Normal	EM2314653	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.14	-	-
			16 Aug 2023	0906_MW259_230816	Normal	EM2314805	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12 Oct 2023	0906_MW259_231012	Normal	EM2318611	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12	-	-
			19 Dec 2023	0906_MW259_231219	Normal	EM2322880	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
			19 Apr 2024	0906_MW259_240419	Normal	EM2406732	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-
MW260	GW		13 Oct 2023	0906_MW260_231013	Normal	EM2318610	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	0906_MW260_240419	Normal	EM2406723	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW300	On-base	Base	12 Jan 2018	0906_MW300_D_180112	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			13 Apr 2018	0906_MW300_D_180413	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Mar 2020	0906_MW300_20200330	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			29 Sep 2020	0906_MW300_20200929	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			22 Apr 2021	0906_MW300_20210422	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
				0906_QC105_20210422	Field_D	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
				0906_QC205_20210422	Interlab_D	792803	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	0.02
			20 Oct 2021	0906_MW300_20211020	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	0.18	-	-
				0906_QC106_20211020	Field_D	ES2139231	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.12	-	-
				0906_QC206_20211020	Interlab_D	837704	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.17	<0.01	0.07
			01 May 2022	0906_MW300_20220501	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.22	-	-
				0906_QC102_20220501	Field_D	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.23	-	-
				0906_QC202_20220501	Interlab_D	889634	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.34	<0.01	0.13
			07 Nov 2022	0906_MW300_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.35	-	-
			15 Apr 2023	0906_MW300_20230415	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.43	-	-
				0906_QC103_20230415	Field_D	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.43	-	-
				0906_QC203_20230415	Interlab_D	982807	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.59	0.02	0.2
			24 Jul 2023	0906_MW300_230724	Normal	ES2325225	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.47	-	-
			14 Oct 2023	0906_MW300_231014	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.51	-	-
			17 Apr 2024	0906_MW300_240417	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.39	-	-
MW302	On-base	Base	12 Jan 2018	0906_MW302_D_180112	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-
			11 Apr 2018	0906_MW302_D_180411	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Mar 2020	0906_MW302_20200330	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			29 Sep 2020	0906_MW302_20200929	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC102_20200929	Field_D	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC202_20200929	Interlab_D	749220	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			21 Apr 2021	0906_MW302_20210421	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC103_20210421	Field_D	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC203_20210421	Interlab_D	792803	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			20 Oct 2021	0906_MW302_20211020	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC107_20211020	Field_D	ES2139231	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC207_20211020	Interlab_D	837704	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			01 May 2022	0906_MW302_20220501	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC105_20220501	Field_D	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC205_20220501	Interlab_D	889634	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			07 Nov 2022	0906_MW302_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC104_20221107	Field_D	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC204_20221107	Interlab_D	940477	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			15 Apr 2023	0906_MW302_20230415	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC104_20230415	Field_D	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC204_20230415	Interlab_D	982807	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			14 Oct 2023	0906_MW302_231014	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_231014	Field_D	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_20231014	Interlab_D	1036478	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			16 Apr 2024	0906_QC205_240417	Interlab_D	1090100	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01

							Perfluorocarbons															
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			17 Apr 2024	0906_MW302_240417	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC105_240417	Field_D	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW304	On-base	Base	16 Jan 2018	0906_MW304_D_180116	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	0.15	<0.02	<0.02	<0.05	0.08	<0.05	<0.05	0.24	-	-
			13 Apr 2018	0906_MW304_D_180413	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			31 Mar 2020	0906_MW304_20200331	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	0.06	-	-
			29 Sep 2020	0906_MW304_20200929	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			28 Apr 2021	0906_MW304_20210428	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			20 Oct 2021	0906_MW304_20211020	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 May 2022	0906_MW304_20220501	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC104_20220501	Field_D	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC204_20220501	Interlab_D	889634	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			07 Nov 2022	0906_MW304_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			15 Apr 2023	0906_MW304_20230415	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Oct 2023	0906_MW304_231014	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Apr 2024	0906_QC207_240419	Interlab_D	1090100	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			19 Apr 2024	0906_MW304_240419	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC107_240419	Field_D	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW306	On-base	Base	16 Jan 2018	0906_MW306_D_180116	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.05	<0.05	0.08	-	-
			12 Apr 2018	0906_MW306_D_180412	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Mar 2020	0906_MW306_20200330	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			29 Sep 2020	0906_MW306_20200929	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	0906_MW306_20210422	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Oct 2021	0906_MW306_20211022	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW306_20220502	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			07 Nov 2022	0906_MW306_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			14 Apr 2023	0906_MW306_20230414	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC101_20230414	Field_D	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_20230414	Interlab_D	982807	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			16 Oct 2023	0906_MW306_231016	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	0906_MW306_240419	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW308	On-base	Base	15 Jan 2018	0906_MW308_D_180115	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC103_180115	Field_D	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC203_180115	Interlab_D	581313	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	-
			11 Apr 2018	0906_MW308_D_180411	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Mar 2020	0906_MW308_20200330	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			29 Sep 2020	0906_MW308_20200929	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Apr 2021	0906_MW308_20210421	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	0906_MW308_20210422	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			21 Oct 2021	0906_MW308_20211021	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			01 May 2022	0906_MW308_20220501	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC103_20220501	Field_D	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC203_20220501	Interlab_D	889634	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			07 Nov 2022	0906_MW308_20221107	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC105_20221107	Field_D	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC205_20221107	Interlab_D	940477	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			17 Apr 2023	0906_MW308_20230417	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC106_20230417	Field_D	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC206_20230417	Interlab_D	982807	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			14 Oct 2023	0906_MW308_231014	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Apr 2024	0906_MW308_240417	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW309	On-base	Base	21 Apr 2021	0906_MW309_20210421	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.10	-	-
MW310	On-base	Base	16 Jan 2018	0906_MW310_D_180116	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			12 Apr 2018	0906_MW310_D_180412	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			31 Mar 2020	0906_MW310_20200331	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			30 Sep 2020	0906_MW310_20200930	Normal	ES2034862-AB	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Apr 2021	0906_MW310_20210422	Normal	ES2116327	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			22 Oct 2021	0906_MW310_20211022	Normal	ES2139228	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			02 May 2022	0906_MW310_20220502	Normal	EM2208338	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW310_20221108	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

							Perfluorocarbons														
							Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 Fts)	8:2 Fluorotelomer sulfonate (8:2 Fts)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR							0.01	0.01	0.01	0.01	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																								
PFAS NEMP 2.0 Table 1 Health Recreational Water																								
PFAS NEMP 2.0 Table 5 Freshwater 95%																								
Location Code	**Location Type**	**Monitoring Zone**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																		
			13 Apr 2023	0906_MW310_20230413	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Oct 2023	0906_MW310_231017	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			16 Apr 2024	0906_QC209_240419	Interlab_D	1090100	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01	<0.01
			19 Apr 2024	0906_MW310_240419	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC109_240419	Field_D	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
MW311	On-base	Base	15 Jan 2018	0906_MW311_I_180115	Normal	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
				0906_QC101_180115	Field_D	ES1802545	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
				0906_QC201_180115	Interlab_D	581313	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	-
			31 Mar 2020	0906_MW311_20200331	Normal	ES2011457	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-
			08 Nov 2022	0906_MW311_20221108	Normal	EM2222404	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.60	-	-
			13 Apr 2023	0906_MW311_20230413	Normal	EM2306945	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.53	-	-
			17 Oct 2023	0906_MW311_2310117	Normal	EM2318641	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.56	-	-
			16 Apr 2024	0906_QC208_240419	Interlab_D	1090100	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.57	<0.01	0.45
			19 Apr 2024	0906_MW311_240419	Normal	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.51	-	-
				0906_QC108_240419	Field_D	EM2406727	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.51	-	-
MW312	Off-base	PO9	16 Jan 2018	0906_MW312_D_180115	Normal	ES1802566	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.10	-	-
			13 Apr 2018	0906_MW312_D_180413	Normal	EM1806331	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.08	-	-
			01 Apr 2020	0906_MW312_200401	Normal	ES2011454	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-
			01 Oct 2020	0906_MW312_20201001	Normal	ES2034888	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.06	-	-
			21 Oct 2021	0906_MW312_20211021	Normal	ES2139399	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-
			03 May 2022	0906_MW312_20220503	Normal	EM2208339	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			08 Nov 2022	0906_MW312_20221108	Normal	EM2222499	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			17 Apr 2023	0906_MW312_20230417	Normal	EM2306923	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			13 Oct 2023	0906_MW312_231013	Normal	EM2318618	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-
			19 Apr 2024	0906_MW312_240419	Normal	EM2406728	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-

						Perfluorocarbons																				
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
						µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water							**0.56**	**0.07**																		
PFAS NEMP 2.0 Table 1 Health Recreational Water							*10*	2																		
PFAS NEMP 2.0 Table 5 Freshwater 95%						0.13	220																			
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																					
SW104	On-base	25 Mar 2020	0906_SW104_20200325	Normal	ES2011457	0.09	<0.01	**0.15**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		02 Sep 2020	0906_SW104_200904	Normal	ES2031377	2.83	0.13	***4.27***	-	0.17	0.16	1.44	0.09	<0.02	<0.1	0.15	0.44	-	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Sep 2020	0906_QC201_200904	Interlab_D	742937	2.3	0.10	***3.29***	<0.01	0.13	0.13	0.99	0.06	<0.01	0.06	0.10	0.41	0.06	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		29 Sep 2020	0906_SW104_20200929	Normal	ES2034862-AB	2.80	0.17	***4.61***	-	0.21	0.23	1.81	0.12	<0.02	<0.1	0.17	0.59	-	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		21 Apr 2021	0906_QC102_20210421	Field_D	ES2116327	0.26	0.02	**0.46**	-	0.03	0.02	0.20	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC202_20210421	Interlab_D	792803	0.27	0.02	**0.41**	<0.01	0.02	0.02	0.14	<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	<0.01
			0906_SW104_20210421	Normal	ES2116327	0.28	0.02	**0.48**	-	0.04	0.02	0.20	<0.02	<0.02	<0.1	<0.02	0.06	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		20 Oct 2021	0906_QC105_20211020	Field_D	ES2139231	0.40	0.01	**0.65**	-	0.04	0.03	0.25	<0.02	<0.02	<0.1	<0.02	0.06	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC205_20211020	Interlab_D	837704	0.61	0.02	**0.91**	<0.01	0.04	0.03	0.30	0.02	<0.01	<0.05	0.02	0.07	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
		21 Oct 2021	0906_SW104_20211020	Normal	ES2139228	0.41	0.01	**0.63**	-	0.05	0.04	0.22	<0.02	<0.02	<0.1	0.02	0.07	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Nov 2021	0906_SW104_211104	Normal		0.22	ND	**0.26**	-	ND	ND	0.04	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.29	ND	**0.37**	-	ND	ND	0.08	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND	ND
		05 Nov 2021	0906_SW104_211105	Normal		1.08	0.02	**1.35**	-	ND	0.02	0.27	ND	ND	ND	ND	0.09	-	ND	ND	ND	ND	ND	ND	ND	ND
		12 Nov 2021	SW104 211112	Normal		0.15	ND	**0.20**	-	ND	ND	0.05	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
		06 Jan 2022	0906_SW104_A_220106	Normal		0.05	ND	0.07	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.07	ND	**0.10**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.09	ND	**0.12**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
			0906_SW104_B_220106	Normal		0.03	ND	0.04	-	ND	ND	0.01	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.05	ND	**0.08**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.12**	-	ND	ND	0.04	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
		07 Jan 2022	0906_SW104_A_220107	Normal		1.08	0.03	**1.34**	-	0.03	0.03	0.26	0.02	ND	ND	0.03	0.09	-	0.02	ND	ND	ND	ND	ND	ND	ND
			0906_SW104_B_220107	Normal		1.01	0.03	**1.25**	-	0.03	0.03	0.24	0.02	ND	ND	0.04	0.09	-	ND	ND	ND	ND	ND	ND	ND	ND
		28 Jan 2022	0906_SW104_2202128	Normal		0.49	0.03	**0.98**	-	0.06	0.07	0.49	0.02	ND	ND	0.03	0.13	-	ND	ND	ND	ND	ND	ND	ND	ND
		29 Jan 2022	0906_SW104_2202129	Normal		0.15	ND	**0.21**	-	ND	ND	0.06	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.15	ND	**0.21**	-	ND	ND	0.06	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.25	0.01	**0.37**	-	ND	ND	0.12	ND	ND	ND	ND	0.02	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.53	0.03	**0.76**	-	0.03	0.03	0.23	ND	ND	ND	ND	0.08	-	ND	ND	ND	ND	ND	ND	ND	ND
		24 Feb 2022	0906_SW104_220224	Normal		0.08	ND	**0.16**	-	ND	-	0.08	-	-	ND	ND	0.02	-	ND	-	-	-	-	-	-	-
						0.11	ND	**0.21**	-	ND	ND	0.10	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.12	ND	**0.23**	-	ND	ND	0.11	ND	ND	ND	ND	0.02	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.14	0.01	**0.27**	-	0.02	ND	0.13	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND	ND
		25 Feb 2022	0906_SW104_220225	Normal		0.06	ND	**0.09**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.10	ND	**0.16**	-	ND	ND	0.06	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.12	ND	**0.18**	-	ND	ND	0.06	ND	ND	ND	ND	0.02	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.13	ND	**0.23**	-	ND	ND	0.10	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.14	ND	**0.20**	-	ND	ND	0.06	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.14	ND	**0.21**	-	ND	ND	0.07	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
		01 Mar 2022	0906_SW104A_220228	Normal		0.28	0.01	**0.50**	-	0.03	0.02	0.22	ND	ND	ND	ND	0.05	-	ND	ND	ND	ND	ND	ND	ND	ND
			0906_SW104B_220228	Normal		0.02	ND	**0.08**	-	ND	ND	0.06	ND	ND	ND	ND	0.02	-	ND	ND	ND	ND	ND	ND	ND	ND
		07 Apr 2022	0906_SW104_2204071150	Normal		0.14	ND	**0.21**	-	ND	ND	0.07	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
		08 Apr 2022	0906_SW104_220408	Normal		0.08	ND	**0.11**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
		09 Apr 2022	0906_SW104_220409	Normal		0.13	ND	**0.21**	-	ND	ND	0.08	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.15	ND	**0.23**	-	ND	ND	0.08	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.29	0.02	**0.50**	-	0.02	ND	0.21	ND	ND	ND	ND	0.05	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.30	0.01	**0.54**	-	ND	0.02	0.24	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND	ND
		27 Apr 2022	0906_SW104_220427	Normal		0.34	0.02	**0.63**	-	0.04	0.04	0.29	ND	ND	ND	ND	0.07	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.60	0.02	**0.82**	-	0.02	ND	0.22	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.70	0.03	**1.13**	-	0.04	0.04	0.43	0.02	ND	ND	ND	0.08	-	ND	ND	ND	ND	ND	ND	ND	ND
		28 Apr 2022	0906_SW104_220428	Normal		0.30	0.01	**0.48**	-	0.02	ND	0.18	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.55	0.02	**0.85**	-	0.03	0.03	0.30	0.02	ND	ND	ND	0.10	-	ND	ND	ND	ND	ND	ND	ND	ND
		01 May 2022	0906_QC101_20220501	Field_D	EM2208338	0.58	0.01	**0.78**	-	0.03	0.02	0.20	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC201_20220501	Interlab_D	889634	0.83	0.02	**1.09**	<0.01	0.03	0.02	0.26	0.02	<0.01	<0.05	0.03	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW104_20220501	Normal	EM2208338	0.63	0.01	**0.82**	-	0.03	<0.02	0.19	<0.02	<0.02	<0.1	<0.02	0.05	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		12 May 2022	0906_SW104_220512	Normal		0.06	ND	**0.08**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.10**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.10**	-	ND	-	0.02	-	-	ND	ND	ND	-	ND	-	-	-	-	-	-	-
						0.09	ND	**0.11**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.09	ND	**0.13**	-	ND	-	0.04	-	-	ND	ND	ND	-	ND	-	-	-	-	-	-	-
						0.10	ND	**0.12**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.12	ND	**0.17**	-	ND	-	0.05	-	-	ND	ND	ND	-	ND	-	-	-	-	-	-	-
						0.16	ND	**0.21**	-	ND	-	0.05	-	-	ND	ND	ND	-	ND	-	-	-	-	-	-	-
						0.27	0.01	**0.49**	-	0.03	0.03	0.22	ND	ND	ND	ND	0.05	-	ND	ND	ND	ND	ND	ND	ND	ND
		13 May 2022	0906_SW104_220513	Normal		0.36	0.01	**0.48**	-	ND	-	0.12	-	-	ND	ND	0.03	-	ND	-	-	-	-	-	-	-
		26 May 2022	0906_SW104_260522	Normal		0.08	ND	**0.16**	-	ND	ND	0.08	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.12**	-	ND	ND	0.04	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.14	ND	**0.29**	-	0.03	ND	0.15	ND	ND	ND	ND	0.05	-	ND	ND	ND	ND	ND	ND	ND	ND
		27 May 2022	0906_SW104_270522	Normal		0.14	ND	**0.23**	-	ND	ND	0.09	ND	ND	ND	ND	0.02	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.16	ND	**0.28**	-	ND	ND	0.12	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND	ND
		17 Jul 2022	0906_SW104_220717	Normal		0.08	ND	**0.10**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.11	ND	**0.15**	-	ND	ND	0.04	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.19	0.01	**0.29**	-	0.02	ND	0.10	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.23	0.01	**0.41**	-	0.05	0.02	0.18	ND	ND	ND	ND	0.05	-	ND	ND	ND	ND	ND	ND	ND	ND
						0.25	0.01	**0.39**	-	0.03	ND	0.14	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND	ND

						Perfluorocarbons																		
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
						µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water							**0.56**	**0.07**																	
PFAS NEMP 2.0 Table 1 Health Recreational Water							*10*	2																	
PFAS NEMP 2.0 Table 5 Freshwater 95%						0.13	220																		
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																				
		31 Jul 2022	**0906_SW104_220731**	**Normal**		0.25	0.01	**0.38**	-	0.04	ND	0.13	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND
		01 Aug 2022	**0906_SW104_220801**	**Normal**		0.05	ND	0.07	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.07	ND	**0.09**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.11**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.12	ND	**0.15**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
		04 Aug 2022	**0906_SW104_220804**	**Normal**		0.05	ND	0.07	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.10**	-	ND	ND	0.02	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.08	ND	**0.11**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.11	ND	**0.14**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.12	ND	**0.15**	-	ND	ND	0.03	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND
						0.24	ND	**0.32**	-	ND	ND	0.08	ND	ND	ND	ND	0.03	-	ND	ND	ND	ND	ND	ND	ND
						0.26	0.01	**0.41**	-	ND	ND	0.15	ND	ND	ND	ND	0.04	-	ND	ND	ND	ND	ND	ND	ND
						0.57	0.02	**0.80**	-	ND	ND	0.23	ND	ND	ND	ND	0.07	-	ND	ND	ND	ND	ND	ND	ND
		05 Nov 2022	**0906_QC102_20221105**	**Field_D**	**EM2222404**	3.19	0.10	***4.63***	-	0.20	0.18	1.44	0.09	<0.04	<0.2	0.10	0.35	-	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09
			0906_QC202_20221105	**Interlab_D**	**940477**	3.1	0.04	***4.7***	<0.01	0.17	0.18	1.6	0.12	<0.01	0.10	0.13	0.41	0.06	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW104_20221105	**Normal**	**EM2222404**	3.34	0.11	***4.88***	-	0.19	0.19	1.54	0.08	<0.04	<0.2	0.10	0.37	-	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.09
		15 Apr 2023	**0906_QC102_20230415**	**Field_D**	**EM2306945**	1.98	0.06	***2.90***	-	0.10	0.10	0.92	0.07	<0.02	<0.1	0.07	0.27	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC202_20230415	**Interlab_D**	**982807**	3.0	0.09	***4.2***	-	0.10	0.14	1.2	0.11	<0.01	0.07	0.08	0.35	0.03	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW104_20230415	**Normal**	**EM2306945**	2.03	0.06	***2.94***	-	0.10	0.10	0.91	0.06	<0.02	<0.1	0.07	0.28	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Oct 2023	**0906_SW104_231014**	**Normal**	**EM2318641**	0.30	<0.01	**0.67**	-	0.04	0.04	0.37	0.02	<0.02	<0.1	<0.02	0.07	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		20 Apr 2024	**0906_SW104_240420**	**Normal**	**EM2406727**	0.11	<0.01	**0.19**	-	<0.02	<0.02	0.08	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW206	**Off-base**	**25 Mar 2020**	**0906_SW206_20200325**	**Normal**	**ES2011453**	0.38	0.01	**0.54**	-	<0.02	<0.02	0.16	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		01 Oct 2020	**0906_SW206_20201001**	**Normal**	**ES2034866**	1.21	0.06	**1.87**	-	0.07	0.08	0.66	0.04	<0.02	<0.1	0.08	0.21	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		20 Apr 2021	**0906_SW206_20210420**	**Normal**	**ES2116333**	0.13	0.01	**0.25**	-	0.03	<0.02	0.12	<0.02	<0.02	<0.1	<0.02	0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		21 Oct 2021	**0906_SW206_20211021**	**Normal**	**ES2139237**	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	<0.02	<0.05
		03 May 2022	**0906_SW206_20220503**	**Normal**	**EM2208150**	0.15	<0.01	**0.23**	-	0.02	<0.02	0.08	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Nov 2022	**0906_SW206_20221104**	**Normal**	**EM2222399**	2.01	0.09	***3.07***	-	0.18	0.12	1.06	0.06	<0.02	<0.1	0.10	0.29	-	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		13 Apr 2023	**0906_SW206_20230413**	**Normal**	**EM2306921**	1.05	0.03	**1.51**	-	0.06	0.05	0.46	0.02	<0.02	<0.1	0.03	0.11	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Oct 2023	**0906_SW206_231016**	**Normal**	**EM2318614**	0.10	<0.01	**0.16**	-	<0.02	<0.02	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
		17 Apr 2024	**0906_SW206_240417**	**Normal**	**EM2406730**	0.19	<0.01	**0.32**	-	<0.02	<0.02	0.13	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW212	**Off-base**	**15 Aug 2019**	**0906_SW212_190815**	**Normal**	**ES1926282**	<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
		27 Mar 2020	**0906_SW212_20200327**	**Normal**	**ES2011453**	<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
		30 Sep 2020	**0906_SW212_20200930**	**Normal**	**ES2034866**	0.09	<0.01	**0.09**	-	<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
			0906_SW212_20200930 Dup	**Normal**	**ES2034866**	<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
		23 Apr 2021	**0906_SW212_20210423**	**Normal**	**ES2116333**	<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
		19 Oct 2021	**0906_SW212_20211019**	**Normal**	**ES2139237**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW212_20220503**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		13 Apr 2023	**0906_SW212_20220413**	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		15 Oct 2023	**0906_SW212_231015**	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		20 Apr 2024	**0906_SW212_240420**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW218	**Off-base**	**25 Mar 2020**	**0906_SW218_20200325**	**Normal**	**ES2011453**	0.03	<0.01	0.05	-	<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
		01 Oct 2020	**0906_QC104_20201001**	**Field_D**	**ES2034866**	0.06	0.01	**0.36**	-	0.08	0.05	0.30	<0.02	<0.02	<0.1	0.05	0.13	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC204_20201001	**Interlab_D**	**749074**	0.04	<0.01	**0.23**	<0.01	0.04	0.03	0.19	0.01	<0.01	<0.05	0.04	0.07	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW218_20201001	**Normal**	**ES2034866**	0.10	0.02	**0.39**	-	0.07	0.04	0.29	<0.02	<0.02	<0.1	0.05	0.12	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		20 Apr 2021	**0906_SW218_20210420**	**Normal**	**ES2116333**	0.01	<0.01	0.05	-	<0.02	<0.02	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
		21 Oct 2021	**0906_SW218_20211021**	**Normal**	**ES2139237**	0.27	0.01	**0.51**	-	0.04	0.04	0.24	<0.02	<0.02	<0.1	<0.02	0.06	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW218_20220503**	**Normal**	**EM2208150**	0.24	0.01	**0.36**	-	0.03	<0.02	0.12	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Nov 2022	**0906_SW218_20221104**	**Normal**	**EM2222399**	0.63	0.04	**0.97**	-	0.04	0.04	0.34	<0.02	<0.02	<0.1	0.04	0.10	-	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		13 Apr 2023	**0906_SW218_20230413**	**Normal**	**EM2306921**	<0.01	<0.01	0.02	-	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
					EM2307789	<0.02	<0.02	0.03	-	<0.02	<0.02	0.03	<0.02	<0.02	<0.10	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Oct 2023	**0906_SW218_231016**	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2024	**0906_SW218_240417**	**Normal**	**EM2406730**	<0.01	<0.01	0.01	-	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW228	**Off-base**	**04 Apr 2019**	**0906_QC101_190408**	**Field_D**	**ES1911335**	0.81	0.06	**1.41**	-	0.10	0.09	0.60	0.04	<0.02	<0.1	0.11	0.43	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC201_190408	**Interlab_D**	**650878**	0.60	0.05	**1.16**	<0.01	0.05	0.06	0.56	0.03	<0.01	<0.05	0.07	0.24	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW228_190408	**Normal**	**ES1911335**	0.77	0.06	**1.39**	-	0.10	0.08	0.62	0.04	<0.02	<0.1	0.12	0.43	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		27 Mar 2020	**0906_QC102_20200327**	**Field_D**	**ES2011453**	0.77	0.05	**1.31**	-	0.04	0.06	0.54	0.03	<0.02	<0.1	0.08	0.26	-	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC202_20200327	**Interlab_D**	**712445**	0.63	0.03	**1.04**	<0.01	0.04	0.05	0.41	0.02	<0.01	<0.05	0.05	0.16	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW228_20200327	**Normal**	**ES2011453**	0.73	0.05	**1.25**	-	0.05	0.06	0.52	0.03	<0.02	<0.1	0.07	0.25	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		01 Oct 2020	**0906_SW228_20201001**	**Normal**	**ES2034866**	2.15	0.09	***3.32***	-	0.11	0.14	1.17	0.08	<0.02	<0.1	0.10	0.40	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		27 Apr 2021	**0906_SW228_20210427**	**Normal**	**ES2116333**	1.10	0.06	***2.19***	-	0.19	0.10	1.09	0.06	<0.02	<0.1	0.10	0.48	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		21 Oct 2021	**0906_SW228_20211021**	**Normal**	**ES2139237**	1.41	0.06	***2.13***	-	0.10	0.09	0.72	0.06	<0.02	<0.1	0.09	0.32	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW228_20220503**	**Normal**	**EM2208150**	0.86	0.04	**1.41**	-	0.14	0.06	0.55	0.04	<0.02	<0.1	0.05	0.20	-	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		09 Nov 2022	**0906_SW228_20221109**	**Normal**	**EM2222399**	1.17	0.06	**1.93**	-	0.06	0.08	0.76	0.05	<0.02	<0.1	0.06	0.27	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2023	**0906_SW228_20230417**	**Normal**	**EM2306921**	1.08	0.04	**1.60**	-	0.12	0.06	0.52	0.04	<0.02	<0.1	0.04	0.20	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Oct 2023	**0906_SW228_231016**	**Normal**	**EM2318614**	1.03	0.04	**1.57**	-	0.04	0.04	0.54	0.04	<0.02	<0.1	0.04	0.18	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		19 Apr 2024	**0906_SW228_240419**	**Normal**	**EM2406730**	0.68	0.02	**0.98**	-	0.04	0.03	0.30	0.02	<0.02	<0.1	0.02	0.11	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW234	**Off-base**	**27 Mar 2020**	**0906_SW234_20200327**	**Normal**	**ES2011453**	<0.01	0.02	<0.01	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	0.03	0.04	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		29 Sep 2020	**0906_SW234_20200929**	**Normal**	**ES2034866**	0.28	0.02	**0.39**	-	<0.02	<0.02	0.11	<0.02	<0.02	<0.1	0.02	0.06	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		20 Apr 2021	**0906_SW234_20210420**	**Normal**	**ES2116333**	0.02	<0.01	0.02	-	<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	<0.02	<0.05
		19 Oct 2021	**0906_SW234_20211019**	**Normal**	**ES2139237**	0.04	<0.01	0.04	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		02 May 2022	**0906_QC107_20220502**	**Field_D**	**EM2208150**	0.02	<0.01	0.02	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_SW234_20220502	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_QC207_20220502**	**Interlab_D**	**889634**	0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

						Perfluorocarbons																		
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
						µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water							**0.56**	**0.07**																	
PFAS NEMP 2.0 Table 1 Health Recreational Water							*10*	2																	
PFAS NEMP 2.0 Table 5 Freshwater 95%						0.13	220																		
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																				
		08 Nov 2022	**0906_SW234_20221108**	**Normal**	**EM2222399**	0.02	<0.01	0.02	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		13 Apr 2023	**0906_SW234_ 20230413**	**Normal**	**EM2306921**	0.16	<0.01	**0.22**	-	0.02	<0.02	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
					EM2307789	0.15	<0.02	**0.21**	-	<0.02	<0.02	0.06	<0.02	<0.02	<0.10	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		15 Oct 2023	**0906_SW234_231015**	**Normal**	**EM2318614**	0.02	<0.01	0.02	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		18 Apr 2024	**0906_SW234_240418**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW236	**Off-base**	**02 Oct 2020**	**0906_SW236_20201002**	**Normal**	**ES2034866**	<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
		22 Apr 2021	**0906_SW236_20210422**	**Normal**	**ES2116333**	<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
		22 Oct 2021	**0906_SW236_20211022**	**Normal**	**ES2139237**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW236_20220503**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Nov 2022	**0906_SW236_20221104**	**Normal**	**EM2222399**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Apr 2023	**0906_SW236_20230414**	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Oct 2023	**0906_QC103_20231014**	**Field_D**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC203_20231014	**Interlab_D**	**1036481**	<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
			0906_SW236_231014	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		18 Apr 2024	**0906_SW236_240418**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW240	**Off-base**	**02 Oct 2020**	**0906_SW240_20201002**	**Normal**	**ES2034866**	<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
		22 Apr 2021	**0906_SW240_20210422**	**Normal**	**ES2116333**	<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
		22 Oct 2021	**0906_SW240_20211022**	**Normal**	**ES2139237**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW240_20220503**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Nov 2022	**0906_SW240_20221104**	**Normal**	**EM2222399**	0.01	<0.01	0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Apr 2023	**0906_SW240_20230414**	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Oct 2023	**0906_SW240_231014**	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		18 Apr 2024	**0906_SW240_240418**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW261	**Off-base**	**15 Aug 2019**	**0906_SW261_190815**	**Normal**	**ES1926282**	<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
		27 Mar 2020	**0906_SW261_20200327**	**Normal**	**ES2011453**	<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
		28 Sep 2020	**0906_SW261_20200928**	**Normal**	**ES2034866**	<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
		20 Apr 2021	**0906_SW261_20210420**	**Normal**	**ES2116333**	<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
		19 Oct 2021	**0906_QC103_20211019**	**Field_D**	**ES2139231**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC203_20211019	**Interlab_D**	**837704**	<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
			0906_SW261_20211019	**Normal**	**ES2139237**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		28 Apr 2022	**0906_SW261_20220428**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2023	**0906_QC105_20230417**	**Field_D**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC205_20230417	**Interlab_D**	**982766**	<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
			0906_SW261_20230417	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		15 Oct 2023	**0906_SW261_231015**	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Apr 2024	**0906_QC103_240416**	**Field_D**	**EM2406727**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC203_240416	**Interlab_D**	**1090100**	<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
			0906_SW261_240416	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW262	**Off-base**	**27 Mar 2020**	**0906_SW262_20200327**	**Normal**	**ES2011453**	<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
		28 Sep 2020	**0906_SW262_20200928**	**Normal**	**ES2034866**	0.05	<0.01	0.05	-	<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
		20 Apr 2021	**0906_SW262_20210420**	**Normal**	**ES2116333**	<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
		19 Oct 2021	**0906_SW262_20211019**	**Normal**	**ES2139237**	0.01	<0.01	0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		28 Apr 2022	**0906_SW262_20220428**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		08 Nov 2022	**0906_SW262_20221108**	**Normal**	**EM2222399**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2023	**0906_SW262_20230417**	**Normal**	**EM2306921**	0.05	<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	<0.02	<0.05
					EM2307789	0.04	<0.02	0.04	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.10	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		15 Oct 2023	**0906_SW262_231015**	**Normal**	**EM2318614**	0.02	<0.01	0.02	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Apr 2024	**0906_SW262_240416**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW286	**Off-base**	**15 Aug 2019**	**0906_SW286_190815**	**Normal**	**ES1926282**	<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
		27 Mar 2020	**0906_SW286_20200327**	**Normal**	**ES2011453**	<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
		02 Oct 2020	**0906_SW286_20201002**	**Normal**	**ES2034866**	<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
		22 Apr 2021	**0906_SW286_20210422**	**Normal**	**ES2116333**	<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
		22 Oct 2021	**0906_SW286_20211022**	**Normal**	**ES2139237**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW286_20220503**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		08 Nov 2022	**0906_SW286_20221108**	**Normal**	**EM2222399**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2023	**0906_SW286_20230417**	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Oct 2023	**0906_QC104_231014**	**Field_D**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC204_20231014	**Interlab_D**	**1036481**	<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
			0906_SW286_231014	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		18 Apr 2024	**0906_QC206_240418**	**Interlab_D**	**1090100**	<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
			0906_QC106_240418	**Field_D**	**EM2406727**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_SW286_240418	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW288	**Off-base**	**04 Apr 2019**	**0906_SW288_190408**	**Normal**	**ES1911335**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	0.04	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		27 Mar 2020	**0906_SW288_20200327**	**Normal**	**ES2011453**	<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
		01 Oct 2020	**0906_SW288_20201001**	**Normal**	**ES2034866**	<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
		27 Apr 2021	**0906_SW288_20210427**	**Normal**	**ES2116333**	<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
		21 Oct 2021	**0906_SW288_20211021**	**Normal**	**ES2139237**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW288_20220503**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		09 Nov 2022	**0906_SW288_20221109**	**Normal**	**EM2222399**	0.02	<0.01	0.02	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2023	**0906_SW288_20230417**	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Oct 2023	**0906_SW288_231016**	**Normal**	**EM2318614**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		19 Apr 2024	**0906_SW288_240419**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW289	**Off-base**	**04 Apr 2019**	**0906_SW289_190408**	**Normal**	**ES1911335**	0.42	0.03	**0.74**	-	0.05	0.04	0.32	0.02	<0.02	<0.1	0.06	0.18	-	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

						Perfluorocarbons																		
						Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoate (PFOA)	Sum of PFHxS and PFOS	Perfluorononanesulfonic acid (PFNS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluoroheptanoic acid (PFHpA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
						µg/L	µg/L	µg/L	mg/kg	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	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	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water							**0.56**	**0.07**																	
PFAS NEMP 2.0 Table 1 Health Recreational Water							*10*	2																	
PFAS NEMP 2.0 Table 5 Freshwater 95%						0.13	220																		
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																				
		27 Mar 2020	**0906_SW289_20200327**	**Normal**	**ES2011453**	0.79	0.03	**1.24**	-	0.03	0.04	0.45	0.02	<0.02	<0.1	<0.02	0.12	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		01 Oct 2020	**0906_SW289_20201001**	**Normal**	**ES2034866**	0.05	0.01	**0.34**	-	0.07	0.04	0.29	<0.02	<0.02	<0.1	0.05	0.12	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		27 Apr 2021	**0906_SW289_20210427**	**Normal**	**ES2116333**	0.24	0.02	**0.58**	-	<0.02	<0.02	0.34	<0.02	<0.02	<0.1	<0.02	0.10	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		21 Oct 2021	**0906_SW289_20211021**	**Normal**	**ES2139237**	1.15	0.04	**1.84**	-	0.11	0.07	0.69	0.06	<0.02	<0.1	0.06	0.22	-	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		03 May 2022	**0906_SW289_20220503**	**Normal**	**EM2208150**	0.65	0.02	**0.94**	-	0.04	0.03	0.29	0.02	<0.02	<0.1	<0.02	0.09	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		09 Nov 2022	**0906_SW289_20221109**	**Normal**	**EM2222399**	1.54	0.08	***2.68***	-	0.17	0.11	1.14	0.08	<0.02	<0.1	0.08	0.35	-	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2023	**0906_SW289_20230417**	**Normal**	**EM2306921**	1.03	0.03	**1.52**	-	0.10	0.05	0.49	0.03	<0.02	<0.1	0.02	0.13	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Oct 2023	**0906_SW289_231016**	**Normal**	**EM2318614**	0.98	0.03	**1.56**	-	0.04	0.04	0.58	0.03	<0.02	<0.1	0.03	0.13	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		19 Apr 2024	**0906_SW289_240419**	**Normal**	**EM2406730**	0.54	0.02	**0.84**	-	0.08	0.02	0.30	<0.02	<0.02	<0.1	<0.02	0.07	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW294	**Off-base**	**15 Aug 2019**	**0906_SW294_190815**	**Normal**	**ES1926282**	<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
		27 Mar 2020	**0906_SW294_20200327**	**Normal**	**ES2011453**	<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
		28 Sep 2020	**0906_SW294_20200928**	**Normal**	**ES2034866**	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
		20 Apr 2021	**0906_SW294_20210420**	**Normal**	**ES2116333**	<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
		19 Oct 2021	**0906_SW294_20211019**	**Normal**	**ES2139237**	0.01	<0.01	0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		28 Apr 2022	**0906_SW294_20220428**	**Normal**	**EM2208150**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		13 Apr 2023	**0906_SW294_20230413**	**Normal**	**EM2306921**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		15 Oct 2023	**0906_SW294_231015**	**Normal**	**EM2318614**	0.01	<0.01	0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Apr 2024	**0906_SW294_240416**	**Normal**	**EM2406730**	0.01	<0.01	0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW309	**Off-base**	**15 Aug 2019**	**0906_SW309_190815**	**Normal**	**ES1926282**	<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
		27 Mar 2020	**0906_SW309_20200327**	**Normal**	**ES2011459**	<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
		28 Sep 2020	**0906_SW309_20200928**	**Normal**	**ES2034885**	<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
		20 Apr 2021	**0906_SW309_20210420**	**Normal**	**ES2116324**	<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
		19 Oct 2021	**0906_SW309_20211019**	**Normal**	**ES2139303**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		02 May 2022	**0906_SW309_20220502**	**Normal**	**EM2208334**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		08 Nov 2022	**0906_SW309_20221108**	**Normal**	**EM2222397**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Apr 2023	**0906_SW309_20230414**	**Normal**	**EM2306919**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		12 Oct 2023	**0906_SW309_231012**	**Normal**	**EM2318611**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		15 Apr 2024	**0906_SW309_240415**	**Normal**	**EM2406730**	<0.01	<0.01	<0.01	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW310	**Off-base**	**27 Mar 2020**	**0906_SW310_20200327**	**Normal**	**ES2011453**	0.58	0.02	**0.82**	-	0.02	0.02	0.24	<0.02	<0.02	<0.1	<0.02	0.04	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		29 Sep 2020	**0906_SW310_20200929**	**Normal**	**ES2034866**	1.60	0.05	***2.11***	-	0.07	0.05	0.51	0.03	<0.02	<0.1	0.06	0.16	-	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		21 Apr 2021	**0906_SW310_20210421**	**Field_D**	**ES2116333**	0.92	0.03	**1.35**	-	0.06	0.03	0.43	<0.02	<0.02	<0.1	0.02	0.08	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC204_20210421	**Interlab_D**	**792774**	1.0	0.03	**1.36**	<0.01	0.05	0.02	0.36	0.02	<0.01	<0.05	0.04	0.07	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
			0906_SW310_20210421	**Normal**	**ES2116333**	0.85	0.02	**1.23**	-	0.10	0.03	0.38	<0.02	<0.02	<0.1	0.02	0.06	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		19 Oct 2021	**0906_SW310_20211019**	**Normal**	**ES2139237**	1.21	0.02	**1.47**	-	0.04	0.02	0.26	0.02	<0.02	<0.1	0.03	0.07	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		30 Apr 2022	**0906_SW310_20220430**	**Normal**	**EM2208150**	0.04	<0.01	0.04	-	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		04 Nov 2022	**0906_QC101_20221104**	**Field_D**	**EM2222404**	0.48	0.01	**0.60**	-	<0.02	<0.02	0.12	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
			0906_QC201_20221104	**Interlab_D**	**940477**	0.71	<0.01	**0.83**	<0.01	0.01	<0.01	0.12	<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
			0906_SW310_20221104	**Normal**	**EM2222399**	0.55	0.01	**0.68**	-	<0.02	<0.02	0.13	<0.02	<0.02	<0.1	<0.02	0.03	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		14 Apr 2023	**0906_SW310_20230414**	**Normal**	**EM2306921**	1.48	0.03	***2.01***	-	0.12	0.05	0.53	0.02	<0.02	<0.1	0.02	0.10	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
					EM2307789	1.31	0.03	**1.83**	-	0.10	0.04	0.52	<0.02	<0.02	<0.10	0.02	0.08	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		16 Oct 2023	**0906_SW310_231016**	**Normal**	**EM2318614**	0.63	0.02	**0.91**	-	<0.02	0.02	0.28	<0.02	<0.02	<0.1	0.02	0.06	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
		17 Apr 2024	**0906_SW310_240417**	**Normal**	**EM2406730**	0.26	<0.01	**0.30**	-	<0.02	<0.02	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

						Perfluorocarbons															
						Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate (8:2 FtS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
						µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR						0.02	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																					
PFAS NEMP 2.0 Table 1 Health Recreational Water																					
PFAS NEMP 2.0 Table 5 Freshwater 95%																					
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
SW104	On-base	25 Mar 2020	0906_SW104_20200325	Normal	ES2011457	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.15	-	-	-
		02 Sep 2020	0906_SW104_200904	Normal	ES2031377	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	5.48	-	-	-
		04 Sep 2020	0906_QC201_200904	Interlab_D	742937	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	4.4	-	2.4	3.39
		29 Sep 2020	0906_SW104_20200929	Normal	ES2034862-AB	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	6.18	-	-	-
		21 Apr 2021	0906_QC102_20210421	Field_D	ES2116327	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.05	<0.05	<0.05	0.63	-	-	-
			0906_QC202_20210421	Interlab_D	792803	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.51	-	0.29	0.43
			0906_SW104_20210421	Normal	ES2116327	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.06	<0.05	<0.05	0.68	-	-	-
		20 Oct 2021	0906_QC105_20211020	Field_D	ES2139231	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.79	-	-	-
			0906_QC205_20211020	Interlab_D	837704	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	1.14	-	0.63	0.93
		21 Oct 2021	0906_SW104_20211020	Normal	ES2139228	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.82	-	-	-
		04 Nov 2021	0906_SW104_211104	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	0.29	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.41	0.41	-	-
		05 Nov 2021	0906_SW104_211105	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.48	1.46	-	-
		12 Nov 2021	SW104 211112	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	0.20	-	-
		06 Jan 2022	0906_SW104_A_220106	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.07	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.10	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.12	-	-
			0906_SW104_B_220106	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	0.04	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.08	0.08	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.12	-	-
		07 Jan 2022	0906_SW104_A_220107	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.59	1.54	-	-
			0906_SW104_B_220107	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.49	1.44	-	-
		28 Jan 2022	0906_SW104_2202128	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.32	1.23	-	-
		29 Jan 2022	0906_SW104_2202129	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	0.21	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	0.21	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.40	0.40	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.93	0.90	-	-
		24 Feb 2022	0906_SW104_220224	Normal		-	-	-	-	-	-	-	-	ND	ND	ND	ND	-	0.18	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24	0.24	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25	0.25	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34	0.34	-	-
		25 Feb 2022	0906_SW104_220225	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.09	0.09	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	0.16	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	0.20	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.26	0.26	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	0.20	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	0.21	-	-
		01 Mar 2022	0906_SW104A_220228	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.61	0.59	-	-
			0906_SW104B_220228	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.10	-	-
		07 Apr 2022	0906_SW104_2204071150	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	0.21	-	-
		08 Apr 2022	0906_SW104_220408	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	0.11	-	-
		09 Apr 2022	0906_SW104_220409	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	0.21	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23	0.23	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.59	0.59	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.61	0.59	-	-
		27 Apr 2022	0906_SW104_220427	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80	0.76	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.90	0.90	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.34	1.28	-	-
		28 Apr 2022	0906_SW104_220428	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55	0.55	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.05	1.00	-	-
		01 May 2022	0906_QC101_20220501	Field_D	EM2208338	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.89	-	-	-
			0906_QC201_20220501	Interlab_D	889634	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	1.28	-	0.85	1.11
			0906_SW104_20220501	Normal	EM2208338	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.91	-	-	-
		12 May 2022	0906_SW104_220512	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.08	0.08	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.10	-	-
						-	-	-	-	-	-	-	-	ND	ND	ND	ND	-	0.10	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	0.11	-	-
						-	-	-	-	-	-	-	-	ND	ND	ND	ND	-	0.13	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.12	-	-
						-	-	-	-	-	-	-	-	ND	ND	ND	ND	-	0.17	-	-
						-	-	-	-	-	-	-	-	ND	ND	ND	ND	-	0.21	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.61	0.58	-	-
		13 May 2022	0906_SW104_220513	Normal		-	-	-	-	-	-	-	-	ND	ND	ND	ND	-	0.52	-	-
		26 May 2022	0906_SW104_260522	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19	0.19	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.12	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	0.37	-	-
		27 May 2022	0906_SW104_270522	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25	0.25	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	0.31	-	-
		17 Jul 2022	0906_SW104_220717	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.10	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	0.15	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35	0.35	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	0.52	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	0.47	-	-

						Perfluorocarbons															
						Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate (8:2 FtS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
						µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR						0.02	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																					
PFAS NEMP 2.0 Table 1 Health Recreational Water																					
PFAS NEMP 2.0 Table 5 Freshwater 95%																					
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
		31 Jul 2022	0906_SW104_220731	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	0.47	-	-
		01 Aug 2022	0906_SW104_220801	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.07	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.09	0.09	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	0.11	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	0.15	-	-
		04 Aug 2022	0906_SW104_220804	Normal		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.07	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.10	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	0.11	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	0.14	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	0.15	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35	0.35	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.46	0.46	-	-
						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89	0.89	-	-
		05 Nov 2022	0906_QC102_20221105	Field_D	EM2222404	<0.04	<0.09	<0.09	<0.09	-	<0.09	<0.04	<0.04	<0.05	0.05	<0.05	<0.05	5.74	-	-	-
			0906_QC202_20221105	Interlab_D	940477	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	0.01	<0.01	5.98	-	3.14	4.74
			0906_SW104_20221105	Normal	EM2222404	<0.04	<0.09	<0.09	<0.09	-	<0.09	<0.04	<0.04	<0.05	<0.05	<0.05	<0.05	5.97	-	-	-
		15 Apr 2023	0906_QC102_20230415	Field_D	EM2306945	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.61	-	-	-
			0906_QC202_20230415	Interlab_D	982807	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	5.23	-	3.09	4.29
			0906_SW104_20230415	Normal	EM2306945	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.65	-	-	-
		14 Oct 2023	0906_SW104_231014	Normal	EM2318641	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.84	-	-	-
		20 Apr 2024	0906_SW104_240420	Normal	EM2406727	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.19	-	-	-
SW206	Off-base	25 Mar 2020	0906_SW206_20200325	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.59	-	-	-
		01 Oct 2020	0906_SW206_20201001	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.44	-	-	-
		20 Apr 2021	0906_SW206_20210420	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.31	-	-	-
		21 Oct 2021	0906_SW206_20211021	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-	-
		03 May 2022	0906_SW206_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.25	-	-	-
		04 Nov 2022	0906_SW206_20221104	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.96	-	-	-
		13 Apr 2023	0906_SW206_20230413	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.81	-	-	-
		16 Oct 2023	0906_SW206_231016	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.16	-	-	-
		17 Apr 2024	0906_SW206_240417	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.35	-	-	-
SW212	Off-base	15 Aug 2019	0906_SW212_190815	Normal	ES1926282	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		27 Mar 2020	0906_SW212_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		30 Sep 2020	0906_SW212_20200930	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.09	-	-	-
			0906_SW212_20200930 Dup	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		23 Apr 2021	0906_SW212_20210423	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		19 Oct 2021	0906_SW212_20211019	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		03 May 2022	0906_SW212_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		13 Apr 2023	0906_SW212_20220413	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		15 Oct 2023	0906_SW212_231015	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		20 Apr 2024	0906_SW212_240420	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW218	Off-base	25 Mar 2020	0906_SW218_20200325	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-	-
		01 Oct 2020	0906_QC104_20201001	Field_D	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.71	-	-	-
			0906_QC204_20201001	Interlab_D	749074	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.47	-	0.04	0.23
			0906_SW218_20201001	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.72	-	-	-
		20 Apr 2021	0906_SW218_20210420	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-	-
		21 Oct 2021	0906_SW218_20211021	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.66	-	-	-
		03 May 2022	0906_SW218_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.43	-	-	-
		04 Nov 2022	0906_SW218_20221104	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.25	-	-	-
		13 Apr 2023	0906_SW218_20230413	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-	-
					EM2307789	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-	-
		16 Oct 2023	0906_SW218_231016	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		17 Apr 2024	0906_SW218_240417	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-	-
SW228	Off-base	04 Apr 2019	0906_QC101_190408	Field_D	ES1911335	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.28	-	-	-
			0906_QC201_190408	Interlab_D	650878	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	1.7	-	0.65	1.21
			0906_SW228_190408	Normal	ES1911335	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.05	<0.05	<0.05	2.31	-	-	-
		27 Mar 2020	0906_QC102_20200327	Field_D	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.85	-	-	-
			0906_QC202_20200327	Interlab_D	712445	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	1.43	-	0.66	1.07
			0906_SW228_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.79	-	-	-
		01 Oct 2020	0906_SW228_20201001	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	4.28	-	-	-
		27 Apr 2021	0906_SW228_20210427	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.22	-	-	-
		21 Oct 2021	0906_SW228_20211021	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.88	-	-	-
		03 May 2022	0906_SW228_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.96	-	-	-
		09 Nov 2022	0906_SW228_20221109	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.54	-	-	-
		17 Apr 2023	0906_SW228_20230417	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.10	-	-	-
		16 Oct 2023	0906_SW228_231016	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.95	-	-	-
		19 Apr 2024	0906_SW228_240419	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.22	-	-	-
SW234	Off-base	27 Mar 2020	0906_SW234_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.16	<0.05	<0.05	0.25	-	-	-
		29 Sep 2020	0906_SW234_20200929	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.11	<0.05	<0.05	0.60	-	-	-
		20 Apr 2021	0906_SW234_20210420	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.34	<0.05	<0.05	0.42	-	-	-
		19 Oct 2021	0906_SW234_20211019	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-	-
		02 May 2022	0906_QC107_20220502	Field_D	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.23	<0.05	<0.05	0.25	-	-	-
			0906_SW234_20220502	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.22	<0.05	<0.05	0.22	-	-	-
		03 May 2022	0906_QC207_20220502	Interlab_D	889634	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	0.28	<0.01	<0.01	0.34	-	0.02	0.02

						Perfluorocarbons															
						Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate (8:2 FtS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
						µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR						0.02	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																					
PFAS NEMP 2.0 Table 1 Health Recreational Water																					
PFAS NEMP 2.0 Table 5 Freshwater 95%																					
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**																
		08 Nov 2022	0906_SW234_20221108	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-	-
		13 Apr 2023	0906_SW234_ 20230413	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.24	-	-	-
					EM2307789	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.21	-	-	-
		15 Oct 2023	0906_SW234_231015	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-	-
		18 Apr 2024	0906_SW234_240418	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW236	Off-base	02 Oct 2020	0906_SW236_20201002	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		22 Apr 2021	0906_SW236_20210422	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		22 Oct 2021	0906_SW236_20211022	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		03 May 2022	0906_SW236_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		04 Nov 2022	0906_SW236_20221104	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		14 Apr 2023	0906_SW236_20230414	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		14 Oct 2023	0906_QC103_20231014	Field_D	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
			0906_QC203_20231014	Interlab_D	1036481	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	<0.01	<0.01
			0906_SW236_231014	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		18 Apr 2024	0906_SW236_240418	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW240	Off-base	02 Oct 2020	0906_SW240_20201002	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		22 Apr 2021	0906_SW240_20210422	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		22 Oct 2021	0906_SW240_20211022	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		03 May 2022	0906_SW240_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		04 Nov 2022	0906_SW240_20221104	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-	-
		14 Apr 2023	0906_SW240_20230414	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		14 Oct 2023	0906_SW240_231014	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		18 Apr 2024	0906_SW240_240418	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW261	Off-base	15 Aug 2019	0906_SW261_190815	Normal	ES1926282	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		27 Mar 2020	0906_SW261_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		28 Sep 2020	0906_SW261_20200928	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		20 Apr 2021	0906_SW261_20210420	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		19 Oct 2021	0906_QC103_20211019	Field_D	ES2139231	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
			0906_QC203_20211019	Interlab_D	837704	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	<0.01	<0.01
			0906_SW261_20211019	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		28 Apr 2022	0906_SW261_20220428	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		17 Apr 2023	0906_QC105_20230417	Field_D	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
			0906_QC205_20230417	Interlab_D	982766	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	<0.01	<0.01
			0906_SW261_20230417	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		15 Oct 2023	0906_SW261_231015	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		16 Apr 2024	0906_QC103_240416	Field_D	EM2406727	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
			0906_QC203_240416	Interlab_D	1090100	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	<0.01	<0.01
			0906_SW261_240416	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW262	Off-base	27 Mar 2020	0906_SW262_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		28 Sep 2020	0906_SW262_20200928	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.05	-	-	-
		20 Apr 2021	0906_SW262_20210420	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		19 Oct 2021	0906_SW262_20211019	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-	-
		28 Apr 2022	0906_SW262_20220428	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		08 Nov 2022	0906_SW262_20221108	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		17 Apr 2023	0906_SW262_20230417	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.07	-	-	-
					EM2307789	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-	-
		15 Oct 2023	0906_SW262_231015	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-	-
		16 Apr 2024	0906_SW262_240416	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW286	Off-base	15 Aug 2019	0906_SW286_190815	Normal	ES1926282	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		27 Mar 2020	0906_SW286_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		02 Oct 2020	0906_SW286_20201002	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		22 Apr 2021	0906_SW286_20210422	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		22 Oct 2021	0906_SW286_20211022	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		03 May 2022	0906_SW286_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		08 Nov 2022	0906_SW286_20221108	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		17 Apr 2023	0906_SW286_20230417	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		14 Oct 2023	0906_QC104_231014	Field_D	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
			0906_QC204_20231014	Interlab_D	1036481	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	<0.01	<0.01
			0906_SW286_231014	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		18 Apr 2024	0906_QC206_240418	Interlab_D	1090100	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	-	<0.01	<0.01
			0906_QC106_240418	Field_D	EM2406727	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
			0906_SW286_240418	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW288	Off-base	04 Apr 2019	0906_SW288_190408	Normal	ES1911335	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-	-
		27 Mar 2020	0906_SW288_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		01 Oct 2020	0906_SW288_20201001	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		27 Apr 2021	0906_SW288_20210427	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		21 Oct 2021	0906_SW288_20211021	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		03 May 2022	0906_SW288_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		09 Nov 2022	0906_SW288_20221109	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-	-
		17 Apr 2023	0906_SW288_20230417	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		16 Oct 2023	0906_SW288_231016	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		19 Apr 2024	0906_SW288_240419	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW289	Off-base	04 Apr 2019	0906_SW289_190408	Normal	ES1911335	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.14	-	-	-

	Perfluorocarbons																
	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate (8:2 FtS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*
	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/kg	ug/L
LOR	0.02	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water																
PFAS NEMP 2.0 Table 1 Health Recreational Water																
PFAS NEMP 2.0 Table 5 Freshwater 95%																

Location Code	Location Type	Date	Field ID	Sample Type	Lab Report Number															
		27 Mar 2020	0906_SW289_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.48	-	-	-
		01 Oct 2020	0906_SW289_20201001	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.66	-	-	-
		27 Apr 2021	0906_SW289_20210427	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.70	-	-	-
		21 Oct 2021	0906_SW289_20211021	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.42	-	-	-
		03 May 2022	0906_SW289_20220503	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.14	-	-	-
		09 Nov 2022	0906_SW289_20221109	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	3.59	-	-	-
		17 Apr 2023	0906_SW289_20230417	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.88	-	-	-
		16 Oct 2023	0906_SW289_231016	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.86	-	-	-
		19 Apr 2024	0906_SW289_240419	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.03	-	-	-
SW294	Off-base	15 Aug 2019	0906_SW294_190815	Normal	ES1926282	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		27 Mar 2020	0906_SW294_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		28 Sep 2020	0906_SW294_20200928	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.02	-	-	-
		20 Apr 2021	0906_SW294_20210420	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.03	-	-	-
		19 Oct 2021	0906_SW294_20211019	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-	-
		28 Apr 2022	0906_SW294_20220428	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	0.16	<0.05	<0.05	0.18	-	-	-
		13 Apr 2023	0906_SW294_20230413	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		15 Oct 2023	0906_SW294_231015	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-	-
		16 Apr 2024	0906_SW294_240416	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	-	-
SW309	Off-base	15 Aug 2019	0906_SW309_190815	Normal	ES1926282	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		27 Mar 2020	0906_SW309_20200327	Normal	ES2011459	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		28 Sep 2020	0906_SW309_20200928	Normal	ES2034885	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		20 Apr 2021	0906_SW309_20210420	Normal	ES2116324	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		19 Oct 2021	0906_SW309_20211019	Normal	ES2139303	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		02 May 2022	0906_SW309_20220502	Normal	EM2208334	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		08 Nov 2022	0906_SW309_20221108	Normal	EM2222397	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		14 Apr 2023	0906_SW309_20230414	Normal	EM2306919	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		12 Oct 2023	0906_SW309_231012	Normal	EM2318611	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
		15 Apr 2024	0906_SW309_240415	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	-	-
SW310	Off-base	27 Mar 2020	0906_SW310_20200327	Normal	ES2011453	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.92	-	-	-
		29 Sep 2020	0906_SW310_20200929	Normal	ES2034866	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.56	-	-	-
		21 Apr 2021	0906_QC104_20210421	Field_D	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.57	-	-	-
			0906_QC204_20210421	Interlab_D	792774	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	1.63	-	1.03	1.39
			0906_SW310_20210421	Normal	ES2116333	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.46	-	-	-
		19 Oct 2021	0906_SW310_20211019	Normal	ES2139237	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.67	-	-	-
		30 Apr 2022	0906_SW310_20220430	Normal	EM2208150	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.04	-	-	-
		04 Nov 2022	0906_QC101_20221104	Field_D	EM2222404	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.64	-	-	-
			0906_QC201_20221104	Interlab_D	940477	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.9	-	0.71	0.83
			0906_SW310_20221104	Normal	EM2222399	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.72	-	-	-
		14 Apr 2023	0906_SW310_20230414	Normal	EM2306921	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.35	-	-	-
					EM2307789	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.10	-	-	-
		16 Oct 2023	0906_SW310_231016	Normal	EM2318614	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.03	-	-	-
		17 Apr 2024	0906_SW310_240417	Normal	EM2406730	<0.02	<0.05	<0.05	<0.05	-	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.30	-	-	-

						NA			
						6:2 Fluorotelomer sulfonic acid (6:2 FTS)_	8:2 Fluorotelomer sulfonic acid (8:2 FTS)_	Perfluorodecane sulfonic acid (PFDS)_	Perfluorooctanoic acid (PFOA)_
						µg/L	µg/L	µg/L	µg/L
LOR						0.05	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water									
PFAS NEMP 2.0 Table 1 Health Recreational Water									
PFAS NEMP 2.0 Table 5 Freshwater 95%									
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**				
SW104	On-base	25 Mar 2020	0906_SW104_20200325	Normal	ES2011457	-	-	-	-
		02 Sep 2020	0906_SW104_200904	Normal	ES2031377	-	-	-	-
		04 Sep 2020	0906_QC201_200904	Interlab_D	742937	-	-	-	-
		29 Sep 2020	0906_SW104_20200929	Normal	ES2034862-AB	-	-	-	-
		21 Apr 2021	0906_QC102_20210421	Field_D	ES2116327	-	-	-	-
			0906_QC202_20210421	Interlab_D	792803	-	-	-	-
			0906_SW104_20210421	Normal	ES2116327	-	-	-	-
		20 Oct 2021	0906_QC105_20211020	Field_D	ES2139231	-	-	-	-
			0906_QC205_20211020	Interlab_D	837704	-	-	-	-
		21 Oct 2021	0906_SW104_20211020	Normal	ES2139228	-	-	-	-
		04 Nov 2021	0906_SW104_211104	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
		05 Nov 2021	0906_SW104_211105	Normal		ND	ND	ND	0.02
		12 Nov 2021	SW104 211112	Normal		ND	ND	ND	ND
		06 Jan 2022	0906_SW104_A_220106	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
			0906_SW104_B_220106	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
		07 Jan 2022	0906_SW104_A_220107	Normal		ND	ND	ND	0.03
			0906_SW104_B_220107	Normal		ND	ND	ND	0.03
		28 Jan 2022	0906_SW104_2202128	Normal		ND	ND	ND	0.03
		29 Jan 2022	0906_SW104_2202129	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	0.01
						ND	ND	ND	0.03
		24 Feb 2022	0906_SW104_220224	Normal		ND	ND	-	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	0.01
		25 Feb 2022	0906_SW104_220225	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
		01 Mar 2022	0906_SW104A_220228	Normal		ND	ND	ND	0.01
			0906_SW104B_220228	Normal		ND	ND	ND	ND
		07 Apr 2022	0906_SW104_2204071150	Normal		ND	ND	ND	ND
		08 Apr 2022	0906_SW104_220408	Normal		ND	ND	ND	ND
		09 Apr 2022	0906_SW104_220409	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	0.02
						ND	ND	ND	0.01
		27 Apr 2022	0906_SW104_220427	Normal		ND	ND	ND	0.02
						ND	ND	ND	0.02
						ND	ND	ND	0.03
		28 Apr 2022	0906_SW104_220428	Normal		ND	ND	ND	0.01
						ND	ND	ND	0.02
		01 May 2022	0906_QC101_20220501	Field_D	EM2208338	-	-	-	-
			0906_QC201_20220501	Interlab_D	889634	-	-	-	-
			0906_SW104_20220501	Normal	EM2208338	-	-	-	-
		12 May 2022	0906_SW104_220512	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	-	ND
						ND	ND	ND	ND
						ND	ND	-	ND
						ND	ND	ND	ND
						ND	ND	-	ND
						ND	ND	-	ND
						ND	ND	ND	0.01
		13 May 2022	0906_SW104_220513	Normal		ND	ND	-	0.01
		26 May 2022	0906_SW104_260522	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
		27 May 2022	0906_SW104_270522	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
		17 Jul 2022	0906_SW104_220717	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	0.01
						ND	ND	ND	0.01
						ND	ND	ND	0.01

						NA			
						6:2 Fluorotelomer sulfonic acid (6:2 FTS)_	8:2 Fluorotelomer sulfonic acid (8:2 FTS)_	Perfluorodecane sulfonic acid (PFDS)_	Perfluorooctanoic acid (PFOA)_
						µg/L	µg/L	µg/L	µg/L
LOR						0.05	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water									
PFAS NEMP 2.0 Table 1 Health Recreational Water									
PFAS NEMP 2.0 Table 5 Freshwater 95%									
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**				
		31 Jul 2022	0906_SW104_220731	Normal		ND	ND	ND	0.01
		01 Aug 2022	0906_SW104_220801	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
		04 Aug 2022	0906_SW104_220804	Normal		ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	ND
						ND	ND	ND	0.01
						ND	ND	ND	0.02
		05 Nov 2022	0906_QC102_20221105	Field_D	EM2222404	-	-	-	-
			0906_QC202_20221105	Interlab_D	940477	-	-	-	-
			0906_SW104_20221105	Normal	EM2222404	-	-	-	-
		15 Apr 2023	0906_QC102_20230415	Field_D	EM2306945	-	-	-	-
			0906_QC202_20230415	Interlab_D	982807	-	-	-	-
			0906_SW104_20230415	Normal	EM2306945	-	-	-	-
		14 Oct 2023	0906_SW104_231014	Normal	EM2318641	-	-	-	-
		20 Apr 2024	0906_SW104_240420	Normal	EM2406727	-	-	-	-
SW206	Off-base	25 Mar 2020	0906_SW206_20200325	Normal	ES2011453	-	-	-	-
		01 Oct 2020	0906_SW206_20201001	Normal	ES2034866	-	-	-	-
		20 Apr 2021	0906_SW206_20210420	Normal	ES2116333	-	-	-	-
		21 Oct 2021	0906_SW206_20211021	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW206_20220503	Normal	EM2208150	-	-	-	-
		04 Nov 2022	0906_SW206_20221104	Normal	EM2222399	-	-	-	-
		13 Apr 2023	0906_SW206_20230413	Normal	EM2306921	-	-	-	-
		16 Oct 2023	0906_SW206_231016	Normal	EM2318614	-	-	-	-
		17 Apr 2024	0906_SW206_240417	Normal	EM2406730	-	-	-	-
SW212	Off-base	15 Aug 2019	0906_SW212_190815	Normal	ES1926282	-	-	-	-
		27 Mar 2020	0906_SW212_20200327	Normal	ES2011453	-	-	-	-
		30 Sep 2020	0906_SW212_20200930	Normal	ES2034866	-	-	-	-
			0906_SW212_20200930 Dup	Normal	ES2034866	-	-	-	-
		23 Apr 2021	0906_SW212_20210423	Normal	ES2116333	-	-	-	-
		19 Oct 2021	0906_SW212_20211019	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW212_20220503	Normal	EM2208150	-	-	-	-
		13 Apr 2023	0906_SW212_20220413	Normal	EM2306921	-	-	-	-
		15 Oct 2023	0906_SW212_231015	Normal	EM2318614	-	-	-	-
		20 Apr 2024	0906_SW212_240420	Normal	EM2406730	-	-	-	-
SW218	Off-base	25 Mar 2020	0906_SW218_20200325	Normal	ES2011453	-	-	-	-
		01 Oct 2020	0906_QC104_20201001	Field_D	ES2034866	-	-	-	-
			0906_QC204_20201001	Interlab_D	749074	-	-	-	-
			0906_SW218_20201001	Normal	ES2034866	-	-	-	-
		20 Apr 2021	0906_SW218_20210420	Normal	ES2116333	-	-	-	-
		21 Oct 2021	0906_SW218_20211021	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW218_20220503	Normal	EM2208150	-	-	-	-
		04 Nov 2022	0906_SW218_20221104	Normal	EM2222399	-	-	-	-
		13 Apr 2023	0906_SW218_20230413	Normal	EM2306921	-	-	-	-
					EM2307789	-	-	-	-
		16 Oct 2023	0906_SW218_231016	Normal	EM2318614	-	-	-	-
		17 Apr 2024	0906_SW218_240417	Normal	EM2406730	-	-	-	-
SW228	Off-base	04 Apr 2019	0906_QC101_190408	Field_D	ES1911335	-	-	-	-
			0906_QC201_190408	Interlab_D	650878	-	-	-	-
			0906_SW228_190408	Normal	ES1911335	-	-	-	-
		27 Mar 2020	0906_QC102_20200327	Field_D	ES2011453	-	-	-	-
			0906_QC202_20200327	Interlab_D	712445	-	-	-	-
			0906_SW228_20200327	Normal	ES2011453	-	-	-	-
		01 Oct 2020	0906_SW228_20201001	Normal	ES2034866	-	-	-	-
		27 Apr 2021	0906_SW228_20210427	Normal	ES2116333	-	-	-	-
		21 Oct 2021	0906_SW228_20211021	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW228_20220503	Normal	EM2208150	-	-	-	-
		09 Nov 2022	0906_SW228_20221109	Normal	EM2222399	-	-	-	-
		17 Apr 2023	0906_SW228_20230417	Normal	EM2306921	-	-	-	-
		16 Oct 2023	0906_SW228_231016	Normal	EM2318614	-	-	-	-
		19 Apr 2024	0906_SW228_240419	Normal	EM2406730	-	-	-	-
SW234	Off-base	27 Mar 2020	0906_SW234_20200327	Normal	ES2011453	-	-	-	-
		29 Sep 2020	0906_SW234_20200929	Normal	ES2034866	-	-	-	-
		20 Apr 2021	0906_SW234_20210420	Normal	ES2116333	-	-	-	-
		19 Oct 2021	0906_SW234_20211019	Normal	ES2139237	-	-	-	-
		02 May 2022	0906_QC107_20220502	Field_D	EM2208150	-	-	-	-
			0906_SW234_20220502	Normal	EM2208150	-	-	-	-
		03 May 2022	0906_QC207_20220502	Interlab_D	889634	-	-	-	-

						NA			
						6:2 Fluorotelomer sulfonic acid (6:2 FTS)_	8:2 Fluorotelomer sulfonic acid (8:2 FTS)_	Perfluorodecane sulfonic acid (PFDS)_	Perfluorooctanoic acid (PFOA)_
						µg/L	µg/L	µg/L	µg/L
LOR						0.05	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water									
PFAS NEMP 2.0 Table 1 Health Recreational Water									
PFAS NEMP 2.0 Table 5 Freshwater 95%									
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**				
		08 Nov 2022	0906_SW234_20221108	Normal	EM2222399	-	-	-	-
		13 Apr 2023	0906_SW234_ 20230413	Normal	EM2306921	-	-	-	-
					EM2307789	-	-	-	-
		15 Oct 2023	0906_SW234_231015	Normal	EM2318614	-	-	-	-
		18 Apr 2024	0906_SW234_240418	Normal	EM2406730	-	-	-	-
SW236	Off-base	02 Oct 2020	0906_SW236_20201002	Normal	ES2034866	-	-	-	-
		22 Apr 2021	0906_SW236_20210422	Normal	ES2116333	-	-	-	-
		22 Oct 2021	0906_SW236_20211022	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW236_20220503	Normal	EM2208150	-	-	-	-
		04 Nov 2022	0906_SW236_20221104	Normal	EM2222399	-	-	-	-
		14 Apr 2023	0906_SW236_20230414	Normal	EM2306921	-	-	-	-
		14 Oct 2023	0906_QC103_20231014	Field_D	EM2318614	-	-	-	-
			0906_QC203_20231014	Interlab_D	1036481	-	-	-	-
			0906_SW236_231014	Normal	EM2318614	-	-	-	-
		18 Apr 2024	0906_SW236_240418	Normal	EM2406730	-	-	-	-
SW240	Off-base	02 Oct 2020	0906_SW240_20201002	Normal	ES2034866	-	-	-	-
		22 Apr 2021	0906_SW240_20210422	Normal	ES2116333	-	-	-	-
		22 Oct 2021	0906_SW240_20211022	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW240_20220503	Normal	EM2208150	-	-	-	-
		04 Nov 2022	0906_SW240_20221104	Normal	EM2222399	-	-	-	-
		14 Apr 2023	0906_SW240_20230414	Normal	EM2306921	-	-	-	-
		14 Oct 2023	0906_SW240_231014	Normal	EM2318614	-	-	-	-
		18 Apr 2024	0906_SW240_240418	Normal	EM2406730	-	-	-	-
SW261	Off-base	15 Aug 2019	0906_SW261_190815	Normal	ES1926282	-	-	-	-
		27 Mar 2020	0906_SW261_20200327	Normal	ES2011453	-	-	-	-
		28 Sep 2020	0906_SW261_20200928	Normal	ES2034866	-	-	-	-
		20 Apr 2021	0906_SW261_20210420	Normal	ES2116333	-	-	-	-
		19 Oct 2021	0906_QC103_20211019	Field_D	ES2139231	-	-	-	-
			0906_QC203_20211019	Interlab_D	837704	-	-	-	-
			0906_SW261_20211019	Normal	ES2139237	-	-	-	-
		28 Apr 2022	0906_SW261_20220428	Normal	EM2208150	-	-	-	-
		17 Apr 2023	0906_QC105_20230417	Field_D	EM2306921	-	-	-	-
			0906_QC205_20230417	Interlab_D	982766	-	-	-	-
			0906_SW261_20230417	Normal	EM2306921	-	-	-	-
		15 Oct 2023	0906_SW261_231015	Normal	EM2318614	-	-	-	-
		16 Apr 2024	0906_QC103_240416	Field_D	EM2406727	-	-	-	-
			0906_QC203_240416	Interlab_D	1090100	-	-	-	-
			0906_SW261_240416	Normal	EM2406730	-	-	-	-
SW262	Off-base	27 Mar 2020	0906_SW262_20200327	Normal	ES2011453	-	-	-	-
		28 Sep 2020	0906_SW262_20200928	Normal	ES2034866	-	-	-	-
		20 Apr 2021	0906_SW262_20210420	Normal	ES2116333	-	-	-	-
		19 Oct 2021	0906_SW262_20211019	Normal	ES2139237	-	-	-	-
		28 Apr 2022	0906_SW262_20220428	Normal	EM2208150	-	-	-	-
		08 Nov 2022	0906_SW262_20221108	Normal	EM2222399	-	-	-	-
		17 Apr 2023	0906_SW262_20230417	Normal	EM2306921	-	-	-	-
					EM2307789	-	-	-	-
		15 Oct 2023	0906_SW262_231015	Normal	EM2318614	-	-	-	-
		16 Apr 2024	0906_SW262_240416	Normal	EM2406730	-	-	-	-
SW286	Off-base	15 Aug 2019	0906_SW286_190815	Normal	ES1926282	-	-	-	-
		27 Mar 2020	0906_SW286_20200327	Normal	ES2011453	-	-	-	-
		02 Oct 2020	0906_SW286_20201002	Normal	ES2034866	-	-	-	-
		22 Apr 2021	0906_SW286_20210422	Normal	ES2116333	-	-	-	-
		22 Oct 2021	0906_SW286_20211022	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW286_20220503	Normal	EM2208150	-	-	-	-
		08 Nov 2022	0906_SW286_20221108	Normal	EM2222399	-	-	-	-
		17 Apr 2023	0906_SW286_20230417	Normal	EM2306921	-	-	-	-
		14 Oct 2023	0906_QC104_231014	Field_D	EM2318614	-	-	-	-
			0906_QC204_20231014	Interlab_D	1036481	-	-	-	-
			0906_SW286_231014	Normal	EM2318614	-	-	-	-
		18 Apr 2024	0906_QC206_240418	Interlab_D	1090100	-	-	-	-
			0906_QC106_240418	Field_D	EM2406727	-	-	-	-
			0906_SW286_240418	Normal	EM2406730	-	-	-	-
SW288	Off-base	04 Apr 2019	0906_SW288_190408	Normal	ES1911335	-	-	-	-
		27 Mar 2020	0906_SW288_20200327	Normal	ES2011453	-	-	-	-
		01 Oct 2020	0906_SW288_20201001	Normal	ES2034866	-	-	-	-
		27 Apr 2021	0906_SW288_20210427	Normal	ES2116333	-	-	-	-
		21 Oct 2021	0906_SW288_20211021	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW288_20220503	Normal	EM2208150	-	-	-	-
		09 Nov 2022	0906_SW288_20221109	Normal	EM2222399	-	-	-	-
		17 Apr 2023	0906_SW288_20230417	Normal	EM2306921	-	-	-	-
		16 Oct 2023	0906_SW288_231016	Normal	EM2318614	-	-	-	-
		19 Apr 2024	0906_SW288_240419	Normal	EM2406730	-	-	-	-
SW289	Off-base	04 Apr 2019	0906_SW289_190408	Normal	ES1911335	-	-	-	-

						NA			
						6:2 Fluorotelomer sulfonic acid (6:2 FTS)_	8:2 Fluorotelomer sulfonic acid (8:2 FTS)_	Perfluorodecane sulfonic acid (PFDS)_	Perfluorooctanoic acid (PFOA)_
						µg/L	µg/L	µg/L	µg/L
LOR						0.05	0.01	0.01	0.01
PFAS NEMP 2.0 Table 1 Health Drinking Water									
PFAS NEMP 2.0 Table 1 Health Recreational Water									
PFAS NEMP 2.0 Table 5 Freshwater 95%									
Location Code	**Location Type**	**Date**	**Field ID**	**Sample Type**	**Lab Report Number**				
		27 Mar 2020	0906_SW289_20200327	Normal	ES2011453	-	-	-	-
		01 Oct 2020	0906_SW289_20201001	Normal	ES2034866	-	-	-	-
		27 Apr 2021	0906_SW289_20210427	Normal	ES2116333	-	-	-	-
		21 Oct 2021	0906_SW289_20211021	Normal	ES2139237	-	-	-	-
		03 May 2022	0906_SW289_20220503	Normal	EM2208150	-	-	-	-
		09 Nov 2022	0906_SW289_20221109	Normal	EM2222399	-	-	-	-
		17 Apr 2023	0906_SW289_20230417	Normal	EM2306921	-	-	-	-
		16 Oct 2023	0906_SW289_231016	Normal	EM2318614	-	-	-	-
		19 Apr 2024	0906_SW289_240419	Normal	EM2406730	-	-	-	-
SW294	Off-base	15 Aug 2019	0906_SW294_190815	Normal	ES1926282	-	-	-	-
		27 Mar 2020	0906_SW294_20200327	Normal	ES2011453	-	-	-	-
		28 Sep 2020	0906_SW294_20200928	Normal	ES2034866	-	-	-	-
		20 Apr 2021	0906_SW294_20210420	Normal	ES2116333	-	-	-	-
		19 Oct 2021	0906_SW294_20211019	Normal	ES2139237	-	-	-	-
		28 Apr 2022	0906_SW294_20220428	Normal	EM2208150	-	-	-	-
		13 Apr 2023	0906_SW294_20230413	Normal	EM2306921	-	-	-	-
		15 Oct 2023	0906_SW294_231015	Normal	EM2318614	-	-	-	-
		16 Apr 2024	0906_SW294_240416	Normal	EM2406730	-	-	-	-
SW309	Off-base	15 Aug 2019	0906_SW309_190815	Normal	ES1926282	-	-	-	-
		27 Mar 2020	0906_SW309_20200327	Normal	ES2011459	-	-	-	-
		28 Sep 2020	0906_SW309_20200928	Normal	ES2034885	-	-	-	-
		20 Apr 2021	0906_SW309_20210420	Normal	ES2116324	-	-	-	-
		19 Oct 2021	0906_SW309_20211019	Normal	ES2139303	-	-	-	-
		02 May 2022	0906_SW309_20220502	Normal	EM2208334	-	-	-	-
		08 Nov 2022	0906_SW309_20221108	Normal	EM2222397	-	-	-	-
		14 Apr 2023	0906_SW309_20230414	Normal	EM2306919	-	-	-	-
		12 Oct 2023	0906_SW309_231012	Normal	EM2318611	-	-	-	-
		15 Apr 2024	0906_SW309_240415	Normal	EM2406730	-	-	-	-
SW310	Off-base	27 Mar 2020	0906_SW310_20200327	Normal	ES2011453	-	-	-	-
		29 Sep 2020	0906_SW310_20200929	Normal	ES2034866	-	-	-	-
		21 Apr 2021	0906_QC104_20210421	Field_D	ES2116333	-	-	-	-
			0906_QC204_20210421	Interlab_D	792774	-	-	-	-
			0906_SW310_20210421	Normal	ES2116333	-	-	-	-
		19 Oct 2021	0906_SW310_20211019	Normal	ES2139237	-	-	-	-
		30 Apr 2022	0906_SW310_20220430	Normal	EM2208150	-	-	-	-
		04 Nov 2022	0906_QC101_20221104	Field_D	EM2222404	-	-	-	-
			0906_QC201_20221104	Interlab_D	940477	-	-	-	-
			0906_SW310_20221104	Normal	EM2222399	-	-	-	-
		14 Apr 2023	0906_SW310_20230414	Normal	EM2306921	-	-	-	-
					EM2307789	-	-	-	-
		16 Oct 2023	0906_SW310_231016	Normal	EM2318614	-	-	-	-
		17 Apr 2024	0906_SW310_240417	Normal	EM2406730	-	-	-	-

			Lab Report Number	EM2406730	EM2406727		EM2406730	1090100		EM2406727		
			Field ID	0906_SW261_240416	0906_QC103_240416		0906_SW261_240416	0906_QC203_240416		0906_MW302_240417	0906_QC105_240417	
			Matrix Type	Water	Water		Water	Water		Water	Water	
			Date	16 Apr 2024	16 Apr 2024	RPD	16 Apr 2024	16 Apr 2024	RPD	17 Apr 2024	17 Apr 2024	RPD
	Unit	LOR										
Perfluorocarbons												
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorooctanoate (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01					<0.01				
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.05	0	<0.02	<0.02	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.05	0	<0.02	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.05	0	<0.02	<0.02	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
Sum of PFAS	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.1	0	<0.01	<0.01	0
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01					<0.01				
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01					<0.01				

*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: 81 (1 - 10 x EQL); 50 (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

			Lab Report Number	EM2406727	1090100		EM2406727			EM2406727	1090100	
			Field ID	0906_MW302_240417	0906_QC205_240417		0906_MW243_240417	0906_QC104_240417		0906_MW243_240417	0906_QC204_240417	
			Matrix Type	Water	Water		Water	Water		Water	Water	
			Date	17 Apr 2024	16 Apr 2024	RPD	17 Apr 2024	17 Apr 2024	RPD	17 Apr 2024	16 Apr 2024	RPD
	Unit	LOR										
Perfluorocarbons												
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorooctanoate (PFOA)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05		<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01			<0.01						<0.01	
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.05	0	<0.02	<0.02	0	<0.02	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.05	0	<0.02	<0.02	0	<0.02	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.05	0	<0.02	<0.02	0	<0.02	<0.05	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
Sum of PFAS	µg/L	0.01		<0.01	<0.1	0	<0.01	<0.01	0	<0.01	<0.1	0
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01			<0.01						<0.01	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01			<0.01						<0.01	

*RPDs have only been considered where a concentration is greater than 1 times the E(

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for ea(

***Interlab Duplicates are matched on a per compound basis as methods vary betwee

			Lab Report Number	EM2406730	EM2406727		EM2406730	1090100		EM2406727		
			Field ID	0906_SW286_240418	0906_QC106_240418		0906_SW286_240418	0906_QC206_240418		0906_MW311_240419	0906_QC108_240419	
			Matrix Type	Water	Water		Water	Water		Water	Water	
			Date	18 Apr 2024	18 Apr 2024	RPD	18 Apr 2024	16 Apr 2024	RPD	19 Apr 2024	19 Apr 2024	RPD
	Unit	LOR										
Perfluorocarbons												
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorooctanoate (PFOA)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	0.42	0.42	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	0.05	0.04	22
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	0.04	0.05	22
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	0.42	0.42	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05		<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01						<0.01				
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.02	0	<0.02	<0.05	0	<0.02	<0.02	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.02	0	<0.02	<0.05	0	<0.02	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.02	0	<0.02	<0.05	0	<0.02	<0.02	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0
Sum of PFAS	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.1	0	0.51	0.51	0
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01						<0.01				
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01						<0.01				

*RPDs have only been considered where a concentration is greater than 1 times the E(
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for eac
***Interlab Duplicates are matched on a per compound basis as methods vary betwee

			Lab Report Number	EM2406727	1090100		EM2406727			EM2406727	1090100	
			Field ID	0906_MW311_240419	0906_QC208_240419		0906_MW310_240419	0906_QC109_240419		0906_MW310_240419	0906_QC209_240419	
			Matrix Type	Water	Water		Water	Water		Water	Water	
			Date	19 Apr 2024	16 Apr 2024	RPD	19 Apr 2024	19 Apr 2024	RPD	19 Apr 2024	16 Apr 2024	RPD
	Unit	LOR										
Perfluorocarbons												
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorooctanoate (PFOA)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01		0.42	0.45	7	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		0.05	0.04	22	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		0.04	0.05	22	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		0.42	0.45	7	<0.01	<0.01	0	<0.01	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05		<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	0.02	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01			0.01						<0.01	
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01		<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.05	0	<0.02	<0.02	0	<0.02	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.05	0	<0.02	<0.02	0	<0.02	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.05	0	<0.02	<0.02	0	<0.02	<0.05	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01		<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
Sum of PFAS	µg/L	0.01		0.51	0.57	11	<0.01	<0.01	0	<0.01	<0.1	0
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01			<0.01						<0.01	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01			0.45						<0.01	

*RPDs have only been considered where a concentration is greater than 1 times the E(
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for ea(
***Interlab Duplicates are matched on a per compound basis as methods vary betwee

			Lab Report Number	EM2406727			EM2406727	1090100	
			Field ID	0906_MW304_240419	0906_QC107_240419		0906_MW304_240419	0906_QC207_240419	
			Matrix Type	Water	Water		Water	Water	
			Date	19 Apr 2024	19 Apr 2024	RPD	19 Apr 2024	16 Apr 2024	RPD
	Unit	LOR							
Perfluorocarbons									
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0
Perfluorooctanoate (PFOA)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0
Sum of PFHxS and PFOS	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05		<0.1	<0.1	0	<0.1	<0.05	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01						<0.01	
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01		<0.02	<0.02	0	<0.02	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.02	0	<0.02	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.02	0	<0.02	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.02	0	<0.02	<0.05	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05		<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01		<0.05	<0.05	0	<0.05	<0.01	0
Sum of PFAS	µg/L	0.01		<0.01	<0.01	0	<0.01	<0.1	0
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01						<0.01	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01						<0.01	

*RPDs have only been considered where a concentration is greater than 1 times the E(
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for eac
***Interlab Duplicates are matched on a per compound basis as methods vary betwee

		Lab Report Number								EM2406727
		Field ID	0906_QC300_240415	0906_QC301_240415	0906_QC302_240416	0906_QC303_240416	0906_QC304_240417	0906_QC305_240417	0906_QC306_240418	0906_QC307_240418
		Date	15 Apr 2024	15 Apr 2024	16 Apr 2024	16 Apr 2024	17 Apr 2024	17 Apr 2024	18 Apr 2024	18 Apr 2024
		Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
	Unit	LOR								
Perfluorocarbons										
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoate (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01								
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01								
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01								

		Lab Report Number							1090100
		Field ID	0906_QC308_240419	0906_QC309_240419	0906_QC310_240420	0906_QC311_240420	0906_QC500_240420	0906_QC501_240420	0906_QC502_240420
		Date	19 Apr 2024	19 Apr 2024	20 Apr 2024	20 Apr 2024	20 Apr 2024	20 Apr 2024	16 Apr 2024
		Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Trip_B	Trip_B	Trip_B
	Unit	LOR							
Perfluorocarbons									
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Perfluorooctanoate (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.01							<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonate (8:2 FtS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1
Sum of US EPA PFAS (PFOS + PFOA)*	mg/kg	0.01							0.02
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	ug/L	0.01							0.02

APPENDIX

C

LABORATORY CERTIFICATES

Cardno

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Stantec

CHAIN OF CUSTODY

COC#: **66666** *ALS Laboratory:* EM Melbourne Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	[redacted]
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 22/04/24 – 13:22

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO3

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW260_240419		19/04/2024 04:45 PM	WATER	ALS: 6 Non ALS: 0	No	X		

Environmental Division Melbourne
Work Order Reference
EM2406723

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 66666 ALS Laboratory: EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO3

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW260_240419	HDPE (no PTFE)	20 mL	00352312002836	Grey	No	
001	0906_MW260_240419	HDPE (no PTFE)	20 mL	00352312003552	Grey	No	
001	0906_MW260_240419	HDPE (no PTFE)	20 mL	00352312003332	Grey	No	
001	0906_MW260_240419	HDPE (no PTFE)	20 mL	00352312003461	Grey	No	
001	0906_MW260_240419	HDPE (no PTFE)	20 mL	00352312002820	Grey	No	
001	0906_MW260_240419	HDPE (no PTFE)	20 mL	00352312002881	Grey	No	

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

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406723**	Page	: 1 of 4
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO3	Issue Date	: 01-May-2024
Sampler	: [redacted]	No. of samples received	: 1
Order number	: -	No. of samples analysed	: 1

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW260_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW260_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0906_MW260_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW260_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0906_MW260_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

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

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406723**	Page	: 1 of 7
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66666	Issue Date	: 01-May-2024
Sampler	: [redacted]		
Site	: PO3		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

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: 5758799)									
EB2413049-007	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.24	0.24	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.27	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EM2406723-001	0906_MW260_240419	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: 5758799)									
EB2413049-007	Anonymous	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	0.11	0.11	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.11	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit

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: 5758799) - continued									
EB2413049-007	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EM2406723-001	0906_MW260_240419	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: 5758799)									
EB2413049-007	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
EM2406723-001	0906_MW260_240419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5758799)									
EB2413049-007	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
EM2406723-001	0906_MW260_240419	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: 5758799)									
EB2413049-007	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.81	0.83	2.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.50	0.51	2.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.81	0.81	0.0	0% - 20%
EM2406723-001	0906_MW260_240419	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758799)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	92.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	94.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	91.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.1	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758799)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.1	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.4	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.6	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	95.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	99.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	77.6	70.0	130
EP231P: PFAS Sums (QCLot: 5758799)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758799)							
EM2406723-001	0906_MW260_240419	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	96.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	96.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	92.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	90.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	96.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799)							
EM2406723-001	0906_MW260_240419	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	91.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.4	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758799)							

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: 5758799) - continued							
EM2406723-001	0906_MW260_240419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	100	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.7	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	85.3	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799)							
EM2406723-001	0906_MW260_240419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	89.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	98.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	98.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	84.9	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406723**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66666	Issue Date	: 01-May-2024 16:44
Sampler	: [redacted]		
Site	: PO3		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 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 or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW260_240419	----	----	----	----
				Sampling date / time	19-Apr-2024 16:45	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2406723-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW260_240419	----	----	----	----
				Sampling date / time	19-Apr-2024 16:45	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2406723-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
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	%		**97.2**	----	----	----	----
13C8-PFOA	----	0.02	%		**97.6**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

COC#: 66667 *ALS Laboratory:* EM Melbourne Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 – 13:22

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO2

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW209_240419		19/04/2024 04:30 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0906_MW231_240419		19/04/2024 04:18 PM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0906_MW238_240419		19/04/2024 04:24 PM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0906_MW239_240419		19/04/2024 04:11 PM	WATER	ALS: 2 Non ALS: 0	No	X		

Environmental Division Melbourne

Work Order Reference

EM2406724

Telephone : +61-3-8549 9600

SAMPLED

CHAIN OF CUSTODY

COC#: 66667 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO2

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW209_240419	HDPE (no PTFE)	20 mL	00352312003368	Grey	No	
001	0906_MW209_240419	HDPE (no PTFE)	20 mL	00352312003389	Grey	No	
002	0906_MW231_240419	HDPE (no PTFE)	20 mL	00352312002918	Grey	No	
002	0906_MW231_240419	HDPE (no PTFE)	20 mL	00352312003013	Grey	No	
003	0906_MW238_240419	HDPE (no PTFE)	20 mL	00352312002988	Grey	No	
003	0906_MW238_240419	HDPE (no PTFE)	20 mL	00352312003022	Grey	No	
004	0906_MW239_240419	HDPE (no PTFE)	20 mL	00352312003086	Grey	No	
004	0906_MW239_240419	HDPE (no PTFE)	20 mL	00352312003207	Grey	No	

Total Bottle Count: ALS: 8, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406724**	Page	: 1 of 4
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO2	Issue Date	: 01-May-2024
Sampler	: [redacted]	No. of samples received	: 4
Order number	: -	No. of samples analysed	: 4

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **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)							
0906_MW209_240419, 0906_MW231_240419, 0906_MW238_240419, 0906_MW239_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW209_240419, 0906_MW231_240419, 0906_MW238_240419, 0906_MW239_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0906_MW209_240419, 0906_MW231_240419, 0906_MW238_240419, 0906_MW239_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW209_240419, 0906_MW231_240419, 0906_MW238_240419, 0906_MW239_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0906_MW209_240419, 0906_MW231_240419, 0906_MW238_240419, 0906_MW239_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

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

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406724**	Page	: 1 of 7
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66667	Issue Date	: 01-May-2024
Sampler	: [redacted]		
Site	: PO2		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 4		
No. of samples analysed	: 4		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5758799)									
EB2413049-007	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.24	0.24	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.27	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EM2406723-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5758799)									
EB2413049-007	Anonymous	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	0.11	0.11	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.11	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit

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: 5758799) - continued									
EB2413049-007	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EM2406723-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5758799)									
EB2413049-007	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
EM2406723-001	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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5758799)									
EB2413049-007	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
EM2406723-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5758799)									
EB2413049-007	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.81	0.83	2.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.50	0.51	2.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.81	0.81	0.0	0% - 20%
EM2406723-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758799)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	92.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	94.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	91.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.1	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758799)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.1	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.4	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.6	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	95.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	99.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	77.6	70.0	130
EP231P: PFAS Sums (QCLot: 5758799)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	96.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	96.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	92.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	90.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	96.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	91.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.4	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758799)							

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: 5758799) - continued							
EM2406723-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	100	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.7	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	85.3	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	89.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	98.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	98.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	84.9	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406724**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66667	Issue Date	: 01-May-2024 16:45
Sampler	: [redacted]		
Site	: PO2		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 4		
No. of samples analysed	: 4		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW209_240419	0906_MW231_240419	0906_MW238_240419	0906_MW239_240419	----
				Sampling date / time	19-Apr-2024 16:30	19-Apr-2024 16:18	19-Apr-2024 16:24	19-Apr-2024 16:11	----
Compound	CAS Number	LOR	Unit		EM2406724-001	EM2406724-002	EM2406724-003	EM2406724-004	--------
					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	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW209_240419	0906_MW231_240419	0906_MW238_240419	0906_MW239_240419	----
				Sampling date / time	19-Apr-2024 16:30	19-Apr-2024 16:18	19-Apr-2024 16:24	19-Apr-2024 16:11	----
Compound	CAS Number	LOR	Unit		EM2406724-001	EM2406724-002	EM2406724-003	EM2406724-004	--------
					Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<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	%		**99.3**	**98.2**	**105**	**108**	----
13C8-PFOA	----	0.02	%		**102**	**101**	**102**	**102**	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

ALS COC#: 66668 ALS Laboratory: EM Melbourne Environmental

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO1

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19_Laverton

SAMPLER MOBILE: / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: [redacted]
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME: 22/04/24 — 13:22

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW200_240418		18/04/2024 04:40 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0906_MW204_240418		18/04/2024 04:36 PM	WATER	ALS: 2 Non ALS: 0	No	X		

Environmental Division Melbourne

Work Order Reference

EM2406725

Telephone : + 61-3-8549 9600

CHAIN OF CUSTODY

COC#: 66668 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO1

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW200_240418	HDPE (no PTFE)	20 mL	00352312003290	Grey	No	
001	0906_MW200_240418	HDPE (no PTFE)	20 mL	00352312003487	Grey	No	
002	0906_MW204_240418	HDPE (no PTFE)	20 mL	00352312003454	Grey	No	
002	0906_MW204_240418	HDPE (no PTFE)	20 mL	00352312003498	Grey	No	

Total Bottle Count: ALS: 4, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406725**	Page	: 1 of 4
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO1	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 2
Order number	: -	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.**
- **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							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2406731--001	Anonymous	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	58.7 %	70.0-130%	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0906_MW200_240418,	0906_MW204_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0906_MW200_240418,	0906_MW204_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0906_MW200_240418,	0906_MW204_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0906_MW200_240418,	0906_MW204_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0906_MW200_240418,	0906_MW204_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406725**	Page	: 1 of 6
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 01-May-2024
C-O-C number	: 66668	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: PO1		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

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: 5759782)									
EM2406731-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.16	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5759782)									
EM2406731-001	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	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782)									
EM2406731-001	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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782) - continued									
EM2406731-001	Anonymous	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: 5759782)									
EM2406731-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5759782)									
EM2406731-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.36	0.37	2.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.31	0.32	3.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	0.35	2.9	0% - 20%

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	95.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.5	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.9	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	103	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	92.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	95.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	101	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	81.5	70.0	130
EP231P: PFAS Sums (QCLot: 5759782)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	82.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	102	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	69.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	73.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	71.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	79.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	85.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)							

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: 5759782) - continued							
EM2406731-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	72.1	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	70.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	70.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	74.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	72.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.4	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	94.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	87.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 58.7	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406725**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 01-May-2024
C-O-C number	: 66668	Issue Date	: 02-May-2024 10:11
Sampler	: [redacted]		
Site	: PO1		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X: Poor matrix spike recovery for sample EM2406731-001 due to sample matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW200_240418	0906_MW204_240418	----	----	----
				Sampling date / time	18-Apr-2024 16:40	18-Apr-2024 16:36	----	----	----
Compound	CAS Number	LOR	Unit		EM2406725-001	EM2406725-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.08**	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.09**	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.58**	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.20**	<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		**0.03**	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.14**	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW200_240418	0906_MW204_240418	----	----	----
				Sampling date / time	18-Apr-2024 16:40	18-Apr-2024 16:36	----	----	----
Compound	CAS Number	LOR	Unit		EM2406725-001	EM2406725-002	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.18**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.78**	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.05**	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**90.7**	**109**	----	----	----
13C8-PFOA	----	0.02	%		**99.2**	**103**	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

ALS COC#: 66669 ALS Laboratory: EM Melbourne Environmental

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 – 13:22

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW214_240417		17/04/2024 03:39 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0906_MW243_240417		20/04/2024 04:38 PM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0906_MW300_240417		17/04/2024 03:48 PM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0906_MW302_240417		17/04/2024 03:46 PM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0906_MW304_240419		19/04/2024 04:22 PM	WATER	ALS: 2 Non ALS: 0	No	X		
006	0906_MW306_240419		19/04/2024 03:37 PM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0906_MW308_240417		20/04/2024 04:47 PM	WATER	ALS: 6 Non ALS: 0	No	X		

Environmental Division
Melbourne
Work Order Reference
EM2406727

Telephone : + 61-3-8549 9600

CHAIN OF CUSTODY

COC#: 66669 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0906_MW310_240419		19/04/2024 04:10 PM	WATER	ALS: 2 Non ALS: 0	No	X		
009	0906_MW311_240419		19/04/2024 03:34 PM	WATER	ALS: 2 Non ALS: 0	No	X		
010	0906_SW104_240420		20/04/2024 03:26 PM	WATER	ALS: 2 Non ALS: 0	No	X		
011	0906_QC300_240415		15/04/2024 05:13 PM	WATER	ALS: 2 Non ALS: 0	No	X		
012	0906_QC301_240415		15/04/2024 05:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
013	0906_QC302_240416		16/04/2024 05:17 PM	WATER	ALS: 2 Non ALS: 0	No	X		
014	0906_QC303_240416		16/04/2024 05:19 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: **66669** *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]
EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0906_QC304_240417		17/04/2024 05:14 PM	WATER	ALS: 2 Non ALS: 0	No	X		
016	0906_QC305_240417		17/04/2024 05:16 PM	WATER	ALS: 2 Non ALS: 0	No	X		
017	0906_QC306_240418		18/04/2024 05:18 PM	WATER	ALS: 2 Non ALS: 0	No	X		
018	0906_QC307_240418		18/04/2024 05:19 PM	WATER	ALS: 2 Non ALS: 0	No	X		
019	0906_QC308_240419		19/04/2024 05:18 PM	WATER	ALS: 2 Non ALS: 0	No	X		
020	0906_QC309_240419		19/04/2024 05:15 PM	WATER	ALS: 2 Non ALS: 0	No	X		
021	0906_QC310_240420		20/04/2024 05:15 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: 66669 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0906_QC311_240420		20/04/2024 05:17 PM	WATER	ALS: 2 Non ALS: 0	No	X		
023	0906_QC104_240417		17/04/2024 05:25 PM	WATER	ALS: 2 Non ALS: 0	No	X		
024	0906_QC103_240416		16/04/2024 05:26 PM	WATER	ALS: 2 Non ALS: 0	No	X		
025	0906_QC105_240417		17/04/2024 05:27 PM	WATER	ALS: 2 Non ALS: 0	No	X		
026	0906_QC106_240418		18/04/2024 05:28 PM	WATER	ALS: 2 Non ALS: 0	No	X		
027	0906_QC107_240419		19/04/2024 05:29 PM	WATER	ALS: 2 Non ALS: 0	No	X		
028	0906_QC108_240419		19/04/2024 05:30 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: **66669** *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0906_QC109_240419		19/04/2024 05:31 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: 66669 ALS Laboratory: EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW214_240417	HDPE (no PTFE)	20 mL	00352312002897	Grey	No	
001	0906_MW214_240417	HDPE (no PTFE)	20 mL	00352312003319	Grey	No	
002	0906_MW243_240417	HDPE (no PTFE)	20 mL	00352312003426	Grey	No	
002	0906_MW243_240417	HDPE (no PTFE)	20 mL	00352312003054	Grey	No	
003	0906_MW300_240417	HDPE (no PTFE)	20 mL	00352312003008	Grey	No	
003	0906_MW300_240417	HDPE (no PTFE)	20 mL	00352312002976	Grey	No	
004	0906_MW302_240417	HDPE (no PTFE)	20 mL	00352312003430	Grey	No	
004	0906_MW302_240417	HDPE (no PTFE)	20 mL	00352312003540	Grey	No	
005	0906_MW304_240419	HDPE (no PTFE)	20 mL	00352312003186	Grey	No	
005	0906_MW304_240419	HDPE (no PTFE)	20 mL	00352312012481	Grey	No	
006	0906_MW306_240419	HDPE (no PTFE)	20 mL	00352312012524	Grey	No	
006	0906_MW306_240419	HDPE (no PTFE)	20 mL	00352312012431	Grey	No	
007	0906_MW308_240417	HDPE (no PTFE)	20 mL	00352312002822	Grey	No	
007	0906_MW308_240417	HDPE (no PTFE)	20 mL	00352312003590	Grey	No	
007	0906_MW308_240417	HDPE (no PTFE)	20 mL	00352312003490	Grey	No	
007	0906_MW308_240417	HDPE (no PTFE)	20 mL	00352312003698	Grey	No	
007	0906_MW308_240417	HDPE (no PTFE)	20 mL	00352312003589	Grey	No	
007	0906_MW308_240417	HDPE (no PTFE)	20 mL	00352312003142	Grey	No	
008	0906_MW310_240419	HDPE (no PTFE)	20 mL	00352309040350	Grey	No	
008	0906_MW310_240419	HDPE (no PTFE)	20 mL	00352309040805	Grey	No	
009	0906_MW311_240419	HDPE (no PTFE)	20 mL	00352312012506	Grey	No	
009	0906_MW311_240419	HDPE (no PTFE)	20 mL	00352312012475	Grey	No	
010	0906_SW104_240420	HDPE (no PTFE)	20 mL	00352312012522	Grey	No	
010	0906_SW104_240420	HDPE (no PTFE)	20 mL	00352312012588	Grey	No	
011	0906_QC300_240415	HDPE (no PTFE)	20 mL	00352312003043	Grey	No	
011	0906_QC300_240415	HDPE (no PTFE)	20 mL	00352312003161	Grey	No	

CHAIN OF CUSTODY

COC#: **66669** *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

012	0906_QC301_240415	HDPE (no PTFE)	20 mL	00352312003049	Grey	No	
012	0906_QC301_240415	HDPE (no PTFE)	20 mL	00352312003191	Grey	No	
013	0906_QC302_240416	HDPE (no PTFE)	20 mL	00352312002942	Grey	No	
013	0906_QC302_240416	HDPE (no PTFE)	20 mL	00352312003544	Grey	No	
014	0906_QC303_240416	HDPE (no PTFE)	20 mL	00352312003506	Grey	No	
014	0906_QC303_240416	HDPE (no PTFE)	20 mL	00352312003449	Grey	No	
015	0906_QC304_240417	HDPE (no PTFE)	20 mL	00352312003265	Grey	No	
015	0906_QC304_240417	HDPE (no PTFE)	20 mL	00352312003613	Grey	No	
016	0906_QC305_240417	HDPE (no PTFE)	20 mL	00352312003340	Grey	No	
016	0906_QC305_240417	HDPE (no PTFE)	20 mL	00352312003176	Grey	No	
017	0906_QC306_240418	HDPE (no PTFE)	20 mL	00352312003149	Grey	No	
017	0906_QC306_240418	HDPE (no PTFE)	20 mL	00352312003221	Grey	No	
018	0906_QC307_240418	HDPE (no PTFE)	20 mL	00352312003716	Grey	No	
018	0906_QC307_240418	HDPE (no PTFE)	20 mL	00352312003581	Grey	No	
019	0906_QC308_240419	HDPE (no PTFE)	20 mL	00352312012516	Grey	No	
019	0906_QC308_240419	HDPE (no PTFE)	20 mL	00352312012436	Grey	No	
020	0906_QC309_240419	HDPE (no PTFE)	20 mL	00352312002900	Grey	No	
020	0906_QC309_240419	HDPE (no PTFE)	20 mL	00352312003244	Grey	No	
021	0906_QC310_240420	HDPE (no PTFE)	20 mL	00352312003252	Grey	No	
021	0906_QC310_240420	HDPE (no PTFE)	20 mL	00352312012600	Grey	No	
022	0906_QC311_240420	HDPE (no PTFE)	20 mL	00352312003661	Grey	No	
022	0906_QC311_240420	HDPE (no PTFE)	20 mL	00352312003301	Grey	No	
023	0906_QC104_240417	HDPE (no PTFE)	20 mL	00352312002969	Grey	No	
023	0906_QC104_240417	HDPE (no PTFE)	20 mL	00352312003387	Grey	No	
024	0906_QC103_240416	HDPE (no PTFE)	20 mL	00352312002954	Grey	No	
024	0906_QC103_240416	HDPE (no PTFE)	20 mL	00352312003178	Grey	No	
025	0906_QC105_240417	HDPE (no PTFE)	20 mL	00352312003210	Grey	No	

CHAIN OF CUSTODY

COC#: 66669 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: Wagga Onsite

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

025	0906_QC105_240417	HDPE (no PTFE)	20 mL	00352312002952	Grey	No	
026	0906_QC106_240418	HDPE (no PTFE)	20 mL	00352312003621	Grey	No	
026	0906_QC106_240418	HDPE (no PTFE)	20 mL	00352312003600	Grey	No	
027	0906_QC107_240419	HDPE (no PTFE)	20 mL	00352312002903	Grey	No	
027	0906_QC107_240419	HDPE (no PTFE)	20 mL	00352312003323	Grey	No	
028	0906_QC108_240419	HDPE (no PTFE)	20 mL	00352312012526	Grey	No	
028	0906_QC108_240419	HDPE (no PTFE)	20 mL	00352312012429	Grey	No	
029	0906_QC109_240419	HDPE (no PTFE)	20 mL	00352312003453	Grey	No	
029	0906_QC109_240419	HDPE (no PTFE)	20 mL	00352312002977	Grey	No	

Total Bottle Count: ALS: 62, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406727**	Page	: 1 of 8
Amendment	: **2**		
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: Wagga Onsite	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 31
Order number	: -	No. of samples analysed	: 31

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	39	7.69	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0906_QC300_240415,	0906_QC301_240415	**15-Apr-2024**	**30-Apr-2024**	12-Oct-2024	✓	**30-Apr-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X)								
0906_QC302_240416,	0906_QC303_240416,	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
0906_QC103_240416								
HDPE (no PTFE) (EP231X)								
0906_MW214_240417,	0906_MW243_240417,	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
0906_MW300_240417,	0906_MW302_240417,							
0906_MW308_240417,	0906_QC304_240417,							
0906_QC305_240417,	0906_QC104_240417,							
0906_QC105_240417								
HDPE (no PTFE) (EP231X)								
0906_QC306_240418,	0906_QC307_240418,	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
0906_QC106_240418								
HDPE (no PTFE) (EP231X)								
0906_MW304_240419,	0906_MW306_240419,	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
0906_MW310_240419,	0906_MW311_240419,							
0906_QC308_240419,	0906_QC309_240419,							
0906_QC107_240419,	0906_QC108_240419,							
0906_QC109_240419								
HDPE (no PTFE) (EP231X)								
0906_SW104_240420,	0906_QC310_240420,	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓
0906_QC311_240420,	0906_QC500_240420,							
0906_QC501_240420								

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) 0906_QC300_240415, 0906_QC301_240415	**15-Apr-2024**	**30-Apr-2024**	12-Oct-2024	✓	**30-Apr-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC302_240416, 0906_QC303_240416, 0906_QC103_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW214_240417, 0906_MW243_240417, 0906_MW300_240417, 0906_MW302_240417, 0906_MW308_240417, 0906_QC304_240417, 0906_QC305_240417, 0906_QC104_240417, 0906_QC105_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC306_240418, 0906_QC307_240418, 0906_QC106_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW304_240419, 0906_MW306_240419, 0906_MW310_240419, 0906_MW311_240419, 0906_QC308_240419, 0906_QC309_240419, 0906_QC107_240419, 0906_QC108_240419, 0906_QC109_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW104_240420, 0906_QC310_240420, 0906_QC311_240420, 0906_QC500_240420, 0906_QC501_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0906_QC300_240415, 0906_QC301_240415	**15-Apr-2024**	**30-Apr-2024**	12-Oct-2024	✓	**30-Apr-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC302_240416, 0906_QC303_240416, 0906_QC103_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW214_240417, 0906_MW243_240417, 0906_MW300_240417, 0906_MW302_240417, 0906_MW308_240417, 0906_QC304_240417, 0906_QC305_240417, 0906_QC104_240417, 0906_QC105_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC306_240418, 0906_QC307_240418, 0906_QC106_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW304_240419, 0906_MW306_240419, 0906_MW310_240419, 0906_MW311_240419, 0906_QC308_240419, 0906_QC309_240419, 0906_QC107_240419, 0906_QC108_240419, 0906_QC109_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW104_240420, 0906_QC310_240420, 0906_QC311_240420, 0906_QC500_240420, 0906_QC501_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0906_QC300_240415, 0906_QC301_240415	**15-Apr-2024**	**30-Apr-2024**	12-Oct-2024	✓	**30-Apr-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC302_240416, 0906_QC303_240416, 0906_QC103_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW214_240417, 0906_MW243_240417, 0906_MW300_240417, 0906_MW302_240417, 0906_MW308_240417, 0906_QC304_240417, 0906_QC305_240417, 0906_QC104_240417, 0906_QC105_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC306_240418, 0906_QC307_240418, 0906_QC106_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW304_240419, 0906_MW306_240419, 0906_MW310_240419, 0906_MW311_240419, 0906_QC308_240419, 0906_QC309_240419, 0906_QC107_240419, 0906_QC108_240419, 0906_QC109_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW104_240420, 0906_QC310_240420, 0906_QC311_240420, 0906_QC500_240420, 0906_QC501_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0906_QC300_240415, 0906_QC301_240415	**15-Apr-2024**	**30-Apr-2024**	12-Oct-2024	✓	**30-Apr-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC302_240416, 0906_QC303_240416, 0906_QC103_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW214_240417, 0906_MW243_240417, 0906_MW300_240417, 0906_MW302_240417, 0906_MW308_240417, 0906_QC304_240417, 0906_QC305_240417, 0906_QC104_240417, 0906_QC105_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_QC306_240418, 0906_QC307_240418, 0906_QC106_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW304_240419, 0906_MW306_240419, 0906_MW310_240419, 0906_MW311_240419, 0906_QC308_240419, 0906_QC309_240419, 0906_QC107_240419, 0906_QC108_240419, 0906_QC109_240419	**19-Apr-2024**	**30-Apr-2024**	16-Oct-2024	✓	**30-Apr-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW104_240420, 0906_QC310_240420, 0906_QC311_240420, 0906_QC500_240420, 0906_QC501_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	39	**7.69**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406727**	Page	: 1 of 10
Amendment	: **2**		
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	[redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66669	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: Wagga Onsite		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 31		
No. of samples analysed	: 31		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5758600)									
EM2406727-007	0906_MW308_240417	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5758799)									
EB2413049-007	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.24	0.24	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.27	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EM2406723-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5758600)									
EM2406727-007	0906_MW308_240417	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5758600) - continued									
EM2406727-007	0906_MW308_240417	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5758799)									
EB2413049-007	Anonymous	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	0.11	0.11	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.11	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EM2406723-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5758600)									
EM2406727-007	0906_MW308_240417	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

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406727**	Page	: 1 of 19
Amendment	: **2**		
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66669	Issue Date	: 02-May-2024 12:13
Sampler	: [redacted]		
Site	: Wagga Onsite		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 31		
No. of samples analysed	: 31		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- Amendment (02/05/2024): This report has been amended following the request to make minor LIMS report formatting corrections. All analysis results are as per the previous report.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW214_240417	0906_MW243_240417	0906_MW300_240417	0906_MW302_240417	0906_MW304_240419
				Sampling date / time	17-Apr-2024 15:39	17-Apr-2024 16:38	17-Apr-2024 15:48	17-Apr-2024 15:46	19-Apr-2024 16:22
Compound	CAS Number	LOR	Unit		EM2406727-001	EM2406727-002	EM2406727-003	EM2406727-004	EM2406727-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.10**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.04**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.13**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.02**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.06**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW214_240417	0906_MW243_240417	0906_MW300_240417	0906_MW302_240417	0906_MW304_240419
				Sampling date / time	17-Apr-2024 15:39	17-Apr-2024 16:38	17-Apr-2024 15:48	17-Apr-2024 15:46	19-Apr-2024 16:22
Compound	CAS Number	LOR	Unit		EM2406727-001	EM2406727-002	EM2406727-003	EM2406727-004	EM2406727-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**0.39**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.15**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.31**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.8**	**96.1**	**95.5**	**96.5**	**100**
13C8-PFOA	----	0.02	%		**102**	**99.7**	**101**	**99.4**	**97.2**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW306_240419	0906_MW308_240417	0906_MW310_240419	0906_MW311_240419	0906_QC104_240417
				Sampling date / time	19-Apr-2024 15:37	17-Apr-2024 16:47	19-Apr-2024 16:10	19-Apr-2024 15:34	17-Apr-2024 17:25
Compound	CAS Number	LOR	Unit		EM2406727-006	EM2406727-007	EM2406727-008	EM2406727-009	EM2406727-023
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**0.05**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	**0.42**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW306_240419	0906_MW308_240417	0906_MW310_240419	0906_MW311_240419	0906_QC104_240417
				Sampling date / time	19-Apr-2024 15:37	17-Apr-2024 16:47	19-Apr-2024 16:10	19-Apr-2024 15:34	17-Apr-2024 17:25
Compound	CAS Number	LOR	Unit		EM2406727-006	EM2406727-007	EM2406727-008	EM2406727-009	EM2406727-023
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.51**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.42**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.47**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**99.4**	**101**	**101**	**102**
13C8-PFOA	----	0.02	%		**99.2**	**99.9**	**99.1**	**101**	**99.0**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_QC103_240416	0906_QC105_240417	0906_QC107_240419	0906_QC108_240419	0906_QC109_240419
				Sampling date / time	16-Apr-2024 17:26	17-Apr-2024 17:27	19-Apr-2024 17:29	19-Apr-2024 17:30	19-Apr-2024 17:31
Compound	CAS Number	LOR	Unit		EM2406727-024	EM2406727-025	EM2406727-027	EM2406727-028	EM2406727-029
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.05**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	**0.42**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_QC103_240416	0906_QC105_240417	0906_QC107_240419	0906_QC108_240419	0906_QC109_240419
				Sampling date / time	16-Apr-2024 17:26	17-Apr-2024 17:27	19-Apr-2024 17:29	19-Apr-2024 17:30	19-Apr-2024 17:31
Compound	CAS Number	LOR	Unit		EM2406727-024	EM2406727-025	EM2406727-027	EM2406727-028	EM2406727-029
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.51**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.42**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.46**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	**101**	**99.5**	**98.8**	**95.0**
13C8-PFOA	----	0.02	%		**100**	**98.0**	**99.8**	**99.1**	**101**

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0906_QC300_240415	0906_QC301_240415	0906_QC302_240416	0906_QC303_240416	0906_QC304_240417
				Sampling date / time	15-Apr-2024 17:13	15-Apr-2024 17:14	16-Apr-2024 17:17	16-Apr-2024 17:19	17-Apr-2024 17:14
Compound	CAS Number	LOR	Unit		EM2406727-011	EM2406727-012	EM2406727-013	EM2406727-014	EM2406727-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0906_QC300_240415	0906_QC301_240415	0906_QC302_240416	0906_QC303_240416	0906_QC304_240417
				Sampling date / time	15-Apr-2024 17:13	15-Apr-2024 17:14	16-Apr-2024 17:17	16-Apr-2024 17:19	17-Apr-2024 17:14
Compound	CAS Number	LOR	Unit		EM2406727-011	EM2406727-012	EM2406727-013	EM2406727-014	EM2406727-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.8**	**106**	**102**	**102**	**104**
13C8-PFOA	----	0.02	%		**102**	**99.4**	**101**	**101**	**100**

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0906_QC305_240417	0906_QC306_240418	0906_QC307_240418	0906_QC308_240419	0906_QC309_240419
				Sampling date / time	17-Apr-2024 17:16	18-Apr-2024 17:18	18-Apr-2024 17:19	19-Apr-2024 17:18	19-Apr-2024 17:15
Compound	CAS Number	LOR	Unit		EM2406727-016	EM2406727-017	EM2406727-018	EM2406727-019	EM2406727-020
					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		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0906_QC305_240417	0906_QC306_240418	0906_QC307_240418	0906_QC308_240419	0906_QC309_240419
				Sampling date / time	17-Apr-2024 17:16	18-Apr-2024 17:18	18-Apr-2024 17:19	19-Apr-2024 17:18	19-Apr-2024 17:15
Compound	CAS Number	LOR	Unit		EM2406727-016	EM2406727-017	EM2406727-018	EM2406727-019	EM2406727-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**103**	**99.6**	**99.9**	**102**
13C8-PFOA	----	0.02	%		**102**	**99.5**	**101**	**102**	**102**

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0906_QC310_240420	0906_QC311_240420	----	----	----
				Sampling date / time	20-Apr-2024 17:15	20-Apr-2024 17:17	----	----	----
Compound	CAS Number	LOR	Unit		EM2406727-021	EM2406727-022	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0906_QC310_240420	0906_QC311_240420	----	----	----
				Sampling date / time	20-Apr-2024 17:15	20-Apr-2024 17:17	----	----	----
Compound	CAS Number	LOR	Unit		EM2406727-021	EM2406727-022	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	**97.3**	----	----	----
13C8-PFOA	----	0.02	%		**100**	**102**	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW104_240420	0906_QC106_240418	----	----	----
				Sampling date / time	20-Apr-2024 15:26	18-Apr-2024 17:28	----	----	----
Compound	CAS Number	LOR	Unit		EM2406727-010	EM2406727-026	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.08**	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.11**	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW104_240420	0906_QC106_240418	----	----	----
				Sampling date / time	20-Apr-2024 15:26	18-Apr-2024 17:28	----	----	----
Compound	CAS Number	LOR	Unit		EM2406727-010	EM2406727-026	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.19**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.19**	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.19**	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**102**	----	----	----
13C8-PFOA	----	0.02	%		**99.5**	**99.4**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC500_240420	0906_QC501_240420	----	----	----
				Sampling date / time	20-Apr-2024 00:00	20-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2406727-030	EM2406727-031	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC500_240420	0906_QC501_240420	----	----	----
				Sampling date / time	20-Apr-2024 00:00	20-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2406727-030	EM2406727-031	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**97.4**	----	----	----
13C8-PFOA	----	0.02	%		**103**	**96.8**	----	----	----

Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: RINSATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

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: 5758600) - continued									
EM2406727-007	0906_MW308_240417	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: 5758799)									
EB2413049-007	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
EM2406723-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5758600)									
EM2406727-007	0906_MW308_240417	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5758600) - continued									
EM2406727-007	0906_MW308_240417	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: 5758799)									
EB2413049-007	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
EM2406723-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5758600)									
EM2406727-007	0906_MW308_240417	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5758799)									
EB2413049-007	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.81	0.83	2.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.50	0.51	2.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.81	0.81	0.0	0% - 20%
EM2406723-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758600)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	96.1	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	95.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	96.5	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	94.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	96.3	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758799)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	92.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	94.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.1	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.1	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758600)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.1	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.9	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.9	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.9	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	91.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.1	72.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.3	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758600)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	108	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	88.2	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.1	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758799)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.1	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.4	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.6	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	95.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758600)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	96.3	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	95.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	98.5	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	109	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	99.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	77.6	70.0	130
EP231P: PFAS Sums (QCLot: 5758600)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5758799)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758600)							
EM2406727-007	0906_MW308_240417	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	94.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.5	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	96.3	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	95.5	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	91.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	92.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	96.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	96.7	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	92.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	90.0	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	96.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758600)							

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: 5758600) - continued							
EM2406727-007	0906_MW308_240417	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.7	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	94.1	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.1	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	98.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	92.3	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	97.3	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.5	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	96.5	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	91.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.4	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.9	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758600)							
EM2406727-007	0906_MW308_240417	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	94.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	100	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	87.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	92.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	92.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	80.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.0	67.0	137

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: 5758799) - continued							
EM2406723-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	100	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.7	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	85.3	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758600)							
EM2406727-007	0906_MW308_240417	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.9	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	99.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	94.5	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	83.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758799)							
EM2406723-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	89.1	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	98.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	98.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	84.9	70.0	130

CHAIN OF CUSTODY

ALS COC#: 66670 ALS Laboratory: EM Melbourne Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 – 13:22

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO9

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW312_240419		19/04/2024 04:12 PM	WATER	ALS: 2 Non ALS: 0	No	X		

Environmental Division Melbourne

Work Order Reference

EM2406728

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

ALS COC#: 66670 ALS Laboratory: EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO9

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW312_240419	HDPE (no PTFE)	20 mL	00352312003597	Grey	No	
001	0906_MW312_240419	HDPE (no PTFE)	20 mL	00352312003472	Grey	No	

Total Bottle Count: ALS: 2, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406728**	Page	: 1 of 4
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO9	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 1
Order number	: -	No. of samples analysed	: 1

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW312_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW312_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0906_MW312_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0906_MW312_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0906_MW312_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

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

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406728**	Page	: 1 of 7
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66670	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: PO9		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

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: 5760759)									
EM2406708-007	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
EM2406730-026	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: 5760759)									
EM2406708-007	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

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: 5760759) - continued									
EM2406708-007	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EM2406730-026	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: 5760759)									
EM2406708-007	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
EM2406730-026	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5760759)									
EM2406708-007	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
EM2406730-026	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: 5760759)									
EM2406708-007	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EM2406730-026	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5760759)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	88.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	107	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	109	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	100	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	96.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	96.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5760759)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	100	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	108	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5760759)								
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	107	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	93.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	100	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	94.3	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.3	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5760759)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5760759) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	108	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	110	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	90.5	70.0	130
EP231P: PFAS Sums (QCLot: 5760759)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5760759)							
EM2406730-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	91.8	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	104	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	105	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	84.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	95.9	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	81.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5760759)							
EM2406730-022	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	103	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	102	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	97.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	86.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	76.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	79.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	75.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.2	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5760759)							

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: 5760759) - continued							
EM2406730-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	85.6	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	88.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	71.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5760759)							
EM2406730-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	96.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	102	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	73.4	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406728**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66670	Issue Date	: 02-May-2024 10:14
Sampler	: [redacted]		
Site	: PO9		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 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 or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW312_240419	----	----	----	----
				Sampling date / time	19-Apr-2024 16:12	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2406728-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW312_240419	----	----	----	----
				Sampling date / time	19-Apr-2024 16:12	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2406728-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
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	%		**93.0**	----	----	----	----
13C8-PFOA	----	0.02	%		**102**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

ALS COC#: 66671 ALS Laboratory: EM Melbourne Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 — 13:22

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO8

ORDER NO:

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW241_240418		18/04/2024 04:37 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0906_MW242_240418		18/04/2024 04:23 PM	WATER	ALS: 2 Non ALS: 0	No	X		

Environmental Division
Melbourne
Work Order Reference
EM2406729

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

COC#: 66671 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO8

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW241_240418	HDPE (no PTFE)	20 mL	00352312002924	Grey	No	
001	0906_MW241_240418	HDPE (no PTFE)	20 mL	00352312003397	Grey	No	
002	0906_MW242_240418	HDPE (no PTFE)	20 mL	00352312003134	Grey	No	
002	0906_MW242_240418	HDPE (no PTFE)	20 mL	00352312003427	Grey	No	

Total Bottle Count: ALS: 4, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406729**	Page	: 1 of 4
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO8	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 2
Order number	: -	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.**
- **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							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2406731--001	Anonymous	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	58.7 %	70.0-130%	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0906_MW241_240418,	0906_MW242_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0906_MW241_240418,	0906_MW242_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0906_MW241_240418,	0906_MW242_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0906_MW241_240418,	0906_MW242_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0906_MW241_240418,	0906_MW242_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406729**	Page	: 1 of 6
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66671	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: PO8		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

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: 5759782)									
EM2406731-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.16	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5759782)									
EM2406731-001	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	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782)									
EM2406731-001	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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782) - continued									
EM2406731-001	Anonymous	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: 5759782)									
EM2406731-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5759782)									
EM2406731-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.36	0.37	2.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.31	0.32	3.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	0.35	2.9	0% - 20%

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	95.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.5	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.9	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	103	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	92.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	95.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	101	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	81.5	70.0	130
EP231P: PFAS Sums (QCLot: 5759782)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	82.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	102	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	69.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	73.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	71.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	79.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	85.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)							

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: 5759782) - continued							
EM2406731-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	72.1	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	70.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	70.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	74.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	72.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.4	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	94.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	87.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 58.7	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406729**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66671	Issue Date	: 02-May-2024 10:14
Sampler	: [redacted]		
Site	: PO8		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X: Poor matrix spike recovery for sample EM2406731-001 due to sample matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW241_240418	0906_MW242_240418	----	----	----
				Sampling date / time	18-Apr-2024 16:37	18-Apr-2024 16:23	----	----	----
Compound	CAS Number	LOR	Unit		EM2406729-001	EM2406729-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW241_240418	0906_MW242_240418	----	----	----
				Sampling date / time	18-Apr-2024 16:37	18-Apr-2024 16:23	----	----	----
Compound	CAS Number	LOR	Unit		EM2406729-001	EM2406729-002	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**113**	----	----	----
13C8-PFOA	----	0.02	%		**106**	**103**	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	***Low***	***High***
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

ALS COC#: 66672 ALS Laboratory: EM Melbourne Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 - 13:22

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW240_240420		20/04/2024 03:31 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0906_MW244_240420		20/04/2024 04:42 PM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0906_MW245_240420		20/04/2024 04:17 PM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0906_MW246_240420		20/04/2024 03:31 PM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0906_MW247_240418		18/04/2024 04:43 PM	WATER	ALS: 2 Non ALS: 0	No	X		
006	0906_MW248_240418		18/04/2024 04:19 PM	WATER	ALS: 2 Non ALS: 0	No	X		
007	0906_MW249_240420		20/04/2024 04:31 PM	WATER	ALS: 6 Non ALS: 0	No	X		internal live QC

Environmental Division Melbourne

Work Order Reference

EM2406730

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

COC#: 66672 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19_Laverton

SAMPLER MOBILE: / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
008	0906_MW250_240420		20/04/2024 04:20 PM	WATER	ALS: 2 Non ALS: 0	No	X		
009	0906_MW251_240420		20/04/2024 03:33 PM	WATER	ALS: 2 Non ALS: 0	No	X		
010	0906_MW252_240420		20/04/2024 03:40 PM	WATER	ALS: 2 Non ALS: 0	No	X		
011	0906_MW253_240420		20/04/2024 03:27 PM	WATER	ALS: 2 Non ALS: 0	No	X		
012	0906_MW254_240420		20/04/2024 03:29 PM	WATER	ALS: 2 Non ALS: 0	No	X		
013	0906_MW255_240417		17/04/2024 04:38 PM	WATER	ALS: 6 Non ALS: 0	No	X		
014	0906_MW256_240417		17/04/2024 04:29 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 66672 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19_Laverton

SAMPLER MOBILE: / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
015	0906_MW257_240417		20/04/2024 03:44 PM	WATER	ALS: 2 Non ALS: 0	No	X		
016	0906_SW206_240417		17/04/2024 04:52 PM	WATER	ALS: 2 Non ALS: 0	No	X		
017	0906_SW218_240417		17/04/2024 04:40 PM	WATER	ALS: 2 Non ALS: 0	No	X		
018	0906_SW234_240418		18/04/2024 04:42 PM	WATER	ALS: 2 Non ALS: 0	No	X		
019	0906_SW262_240416		16/04/2024 04:53 PM	WATER	ALS: 6 Non ALS: 0	No	X		Internal Lab qc
020	0906_SW294_240416		16/04/2024 04:52 PM	WATER	ALS: 2 Non ALS: 0	No	X		
021	0906_SW310_240417		17/04/2024 04:26 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 66672 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
022	0906_SW212_240420		20/04/2024 04:08 PM	WATER	ALS: 6 Non ALS: 0	No	X		Internal lab qc
023	0906_SW261_240416		16/04/2024 05:07 PM	WATER	ALS: 2 Non ALS: 0	No	X		
024	0906_SW286_240418		18/04/2024 04:16 PM	WATER	ALS: 2 Non ALS: 0	No	X		
025	0906_SW309_240415		15/04/2024 05:03 PM	WATER	ALS: 2 Non ALS: 0	No	X		
026	0906_SW236_240418		18/04/2024 04:35 PM	WATER	ALS: 6 Non ALS: 0	No	X		
027	0906_SW240_240418		18/04/2024 04:25 PM	WATER	ALS: 2 Non ALS: 0	No	X		
028	0906_SW228_240419		19/04/2024 04:34 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) *COC#:* 66672 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton

/ EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
029	0906_SW288_240419		19/04/2024 04:21 PM	WATER	ALS: 2 Non ALS: 0	No	X		
030	0906_SW289_240419		19/04/2024 04:13 PM	WATER	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: 66672 ALS Laboratory: EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW240_240420	HDPE (no PTFE)	20 mL	00352312012718	Grey	No	
001	0906_MW240_240420	HDPE (no PTFE)	20 mL	00352312012525	Grey	No	
002	0906_MW244_240420	HDPE (no PTFE)	20 mL	00352312003089	Grey	No	
002	0906_MW244_240420	HDPE (no PTFE)	20 mL	00352312002972	Grey	No	
003	0906_MW245_240420	HDPE (no PTFE)	20 mL	00352312002946	Grey	No	
003	0906_MW245_240420	HDPE (no PTFE)	20 mL	00352312002894	Grey	No	
004	0906_MW246_240420	HDPE (no PTFE)	20 mL	00352312012546	Grey	No	
004	0906_MW246_240420	HDPE (no PTFE)	20 mL	00352312012638	Grey	No	
005	0906_MW247_240418	HDPE (no PTFE)	20 mL	00352312003087	Grey	No	
005	0906_MW247_240418	HDPE (no PTFE)	20 mL	00352312002958	Grey	No	
006	0906_MW248_240418	HDPE (no PTFE)	20 mL	00352312003644	Grey	No	
006	0906_MW248_240418	HDPE (no PTFE)	20 mL	00352312003442	Grey	No	
007	0906_MW249_240420	HDPE (no PTFE)	20 mL	00352312003388	Grey	No	
007	0906_MW249_240420	HDPE (no PTFE)	20 mL	00352309040637	Grey	No	
007	0906_MW249_240420	HDPE (no PTFE)	20 mL	00352309040609	Grey	No	
007	0906_MW249_240420	HDPE (no PTFE)	20 mL	00352312002874	Grey	No	
007	0906_MW249_240420	HDPE (no PTFE)	20 mL	00352312003446	Grey	No	
007	0906_MW249_240420	HDPE (no PTFE)	20 mL	00352312003138	Grey	No	
008	0906_MW250_240420	HDPE (no PTFE)	20 mL	00352312003239	Grey	No	
008	0906_MW250_240420	HDPE (no PTFE)	20 mL	00352312002835	Grey	No	
009	0906_MW251_240420	HDPE (no PTFE)	20 mL	00352312012584	Grey	No	
009	0906_MW251_240420	HDPE (no PTFE)	20 mL	00352312012430	Grey	No	
010	0906_MW252_240420	HDPE (no PTFE)	20 mL	00352312012579	Grey	No	
010	0906_MW252_240420	HDPE (no PTFE)	20 mL	00352312012552	Grey	No	
011	0906_MW253_240420	HDPE (no PTFE)	20 mL	00352312012712	Grey	No	
011	0906_MW253_240420	HDPE (no PTFE)	20 mL	00352312012587	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 66672 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO [redacted]

EMAIL INVOICES TO [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

012	0906_MW254_240420	HDPE (no PTFE)	20 mL	00352312012542	Grey	No	
012	0906_MW254_240420	HDPE (no PTFE)	20 mL	00352312012469	Grey	No	
013	0906_MW255_240417	HDPE (no PTFE)	20 mL	00352312003064	Grey	No	
013	0906_MW255_240417	HDPE (no PTFE)	20 mL	00352312003502	Grey	No	
013	0906_MW255_240417	HDPE (no PTFE)	20 mL	00352312003659	Grey	No	
013	0906_MW255_240417	HDPE (no PTFE)	20 mL	00352312003665	Grey	No	
013	0906_MW255_240417	HDPE (no PTFE)	20 mL	00352312003102	Grey	No	
013	0906_MW255_240417	HDPE (no PTFE)	20 mL	00352312003373	Grey	No	
014	0906_MW256_240417	HDPE (no PTFE)	20 mL	00352312003352	Grey	No	
014	0906_MW256_240417	HDPE (no PTFE)	20 mL	00352312003091	Grey	No	
015	0906_MW257_240417	HDPE (no PTFE)	20 mL	00352312002930	Grey	No	
015	0906_MW257_240417	HDPE (no PTFE)	20 mL	00352312003604	Grey	No	
016	0906_SW206_240417	HDPE (no PTFE)	20 mL	00352312003394	Grey	No	
016	0906_SW206_240417	HDPE (no PTFE)	20 mL	00352312003637	Grey	No	
017	0906_SW218_240417	HDPE (no PTFE)	20 mL	00352312003561	Grey	No	
017	0906_SW218_240417	HDPE (no PTFE)	20 mL	00352312003037	Grey	No	
018	0906_SW234_240418	HDPE (no PTFE)	20 mL	00352312003279	Grey	No	
018	0906_SW234_240418	HDPE (no PTFE)	20 mL	00352312002997	Grey	No	
019	0906_SW262_240416	HDPE (no PTFE)	20 mL	00352312002957	Grey	No	
019	0906_SW262_240416	HDPE (no PTFE)	20 mL	00352312003211	Grey	No	
019	0906_SW262_240416	HDPE (no PTFE)	20 mL	00352312002998	Grey	No	
019	0906_SW262_240416	HDPE (no PTFE)	20 mL	00352312003317	Grey	No	
019	0906_SW262_240416	HDPE (no PTFE)	20 mL	00352312003477	Grey	No	
019	0906_SW262_240416	HDPE (no PTFE)	20 mL	00352312003620	Grey	No	
020	0906_SW294_240416	HDPE (no PTFE)	20 mL	00352312003548	Grey	No	
020	0906_SW294_240416	HDPE (no PTFE)	20 mL	00352312003386	Grey	No	
021	0906_SW310_240417	HDPE (no PTFE)	20 mL	00352312003165	Grey	No	

CHAIN OF CUSTODY

COC#: 66672 ALS Laboratory: EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

021	0906_SW310_240417	HDPE (no PTFE)	20 mL	00352312003436	Grey	No	
022	0906_SW212_240420	HDPE (no PTFE)	20 mL	00352312003160	Grey	No	
022	0906_SW212_240420	HDPE (no PTFE)	20 mL	00352312003166	Grey	No	
022	0906_SW212_240420	HDPE (no PTFE)	20 mL	00352312003475	Grey	No	
022	0906_SW212_240420	HDPE (no PTFE)	20 mL	00352312003274	Grey	No	
022	0906_SW212_240420	HDPE (no PTFE)	20 mL	00352312003082	Grey	No	
022	0906_SW212_240420	HDPE (no PTFE)	20 mL	00352312003509	Grey	No	
023	0906_SW261_240416	HDPE (no PTFE)	20 mL	00352312002971	Grey	No	
023	0906_SW261_240416	HDPE (no PTFE)	20 mL	00352312003154	Grey	No	
024	0906_SW286_240418	HDPE (no PTFE)	20 mL	00352312003156	Grey	No	
024	0906_SW286_240418	HDPE (no PTFE)	20 mL	00352312003004	Grey	No	
025	0906_SW309_240415	HDPE (no PTFE)	20 mL	00352312003031	Grey	No	
025	0906_SW309_240415	HDPE (no PTFE)	20 mL	00352312003484	Grey	No	
026	0906_SW236_240418	HDPE (no PTFE)	20 mL	00352312003438	Grey	No	
026	0906_SW236_240418	HDPE (no PTFE)	20 mL	00352312003014	Grey	No	
026	0906_SW236_240418	HDPE (no PTFE)	20 mL	00352312003567	Grey	No	
026	0906_SW236_240418	HDPE (no PTFE)	20 mL	00352312003684	Grey	No	
026	0906_SW236_240418	HDPE (no PTFE)	20 mL	00352312003281	Grey	No	
026	0906_SW236_240418	HDPE (no PTFE)	20 mL	00352312003383	Grey	No	
027	0906_SW240_240418	HDPE (no PTFE)	20 mL	00352312003331	Grey	No	
027	0906_SW240_240418	HDPE (no PTFE)	20 mL	00352312003060	Grey	No	
028	0906_SW228_240419	HDPE (no PTFE)	20 mL	00352312002926	Grey	No	
028	0906_SW228_240419	HDPE (no PTFE)	20 mL	00352312003103	Grey	No	
029	0906_SW288_240419	HDPE (no PTFE)	20 mL	00352312003143	Grey	No	
029	0906_SW288_240419	HDPE (no PTFE)	20 mL	00352312002867	Grey	No	
030	0906_SW289_240419	HDPE (no PTFE)	20 mL	00352312002932	Grey	No	
030	0906_SW289_240419	HDPE (no PTFE)	20 mL	00352312003266	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 66672 ALS Laboratory: EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO7

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

Total Bottle Count: ALS: 80, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406730**	Page	: 1 of 8
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO7	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 30
Order number	: -	No. of samples analysed	: 30

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) 0906_SW309_240415	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW294_240416, 0906_SW261_240416	**16-Apr-2024**	**01-May-2024**	13-Oct-2024	✓	**01-May-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW262_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW310_240417	**17-Apr-2024**	**01-May-2024**	14-Oct-2024	✓	**01-May-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW255_240417, 0906_MW256_240417, 0906_MW257_240417, 0906_SW206_240417, 0906_SW218_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW286_240418, 0906_SW236_240418, 0906_SW240_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW247_240418, 0906_MW248_240418, 0906_SW234_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW228_240419, 0906_SW288_240419, 0906_SW289_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW212_240420	**20-Apr-2024**	**01-May-2024**	17-Oct-2024	✓	**01-May-2024**	17-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW240_240420, 0906_MW244_240420, 0906_MW245_240420, 0906_MW246_240420, 0906_MW249_240420, 0906_MW250_240420, 0906_MW251_240420, 0906_MW252_240420, 0906_MW253_240420, 0906_MW254_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0906_SW309_240415	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW294_240416, 0906_SW261_240416	**16-Apr-2024**	**01-May-2024**	13-Oct-2024	✓	**01-May-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW262_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW310_240417	**17-Apr-2024**	**01-May-2024**	14-Oct-2024	✓	**01-May-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW255_240417, 0906_MW256_240417, 0906_MW257_240417, 0906_SW206_240417, 0906_SW218_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW286_240418, 0906_SW236_240418, 0906_SW240_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW247_240418, 0906_MW248_240418, 0906_SW234_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW228_240419, 0906_SW288_240419, 0906_SW289_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW212_240420	**20-Apr-2024**	**01-May-2024**	17-Oct-2024	✓	**01-May-2024**	17-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW240_240420, 0906_MW244_240420, 0906_MW245_240420, 0906_MW246_240420, 0906_MW249_240420, 0906_MW250_240420, 0906_MW251_240420, 0906_MW252_240420, 0906_MW253_240420, 0906_MW254_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0906_SW309_240415	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW294_240416, 0906_SW261_240416	**16-Apr-2024**	**01-May-2024**	13-Oct-2024	✓	**01-May-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW262_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW310_240417	**17-Apr-2024**	**01-May-2024**	14-Oct-2024	✓	**01-May-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW255_240417, 0906_MW256_240417, 0906_MW257_240417, 0906_SW206_240417, 0906_SW218_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW286_240418, 0906_SW236_240418, 0906_SW240_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW247_240418, 0906_MW248_240418, 0906_SW234_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW228_240419, 0906_SW288_240419, 0906_SW289_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW212_240420	**20-Apr-2024**	**01-May-2024**	17-Oct-2024	✓	**01-May-2024**	17-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW240_240420, 0906_MW244_240420, 0906_MW245_240420, 0906_MW246_240420, 0906_MW249_240420, 0906_MW250_240420, 0906_MW251_240420, 0906_MW252_240420, 0906_MW253_240420, 0906_MW254_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0906_SW309_240415	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW294_240416, 0906_SW261_240416	**16-Apr-2024**	**01-May-2024**	13-Oct-2024	✓	**01-May-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW262_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW310_240417	**17-Apr-2024**	**01-May-2024**	14-Oct-2024	✓	**01-May-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW255_240417, 0906_MW256_240417, 0906_MW257_240417, 0906_SW206_240417, 0906_SW218_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW286_240418, 0906_SW236_240418, 0906_SW240_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW247_240418, 0906_MW248_240418, 0906_SW234_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW228_240419, 0906_SW288_240419, 0906_SW289_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW212_240420	**20-Apr-2024**	**01-May-2024**	17-Oct-2024	✓	**01-May-2024**	17-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW240_240420, 0906_MW244_240420, 0906_MW245_240420, 0906_MW246_240420, 0906_MW249_240420, 0906_MW250_240420, 0906_MW251_240420, 0906_MW252_240420, 0906_MW253_240420, 0906_MW254_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0906_SW309_240415	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW294_240416, 0906_SW261_240416	**16-Apr-2024**	**01-May-2024**	13-Oct-2024	✓	**01-May-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW262_240416	**16-Apr-2024**	**30-Apr-2024**	13-Oct-2024	✓	**30-Apr-2024**	13-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW310_240417	**17-Apr-2024**	**01-May-2024**	14-Oct-2024	✓	**01-May-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW255_240417, 0906_MW256_240417, 0906_MW257_240417, 0906_SW206_240417, 0906_SW218_240417	**17-Apr-2024**	**30-Apr-2024**	14-Oct-2024	✓	**30-Apr-2024**	14-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW286_240418, 0906_SW236_240418, 0906_SW240_240418	**18-Apr-2024**	**01-May-2024**	15-Oct-2024	✓	**01-May-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW247_240418, 0906_MW248_240418, 0906_SW234_240418	**18-Apr-2024**	**30-Apr-2024**	15-Oct-2024	✓	**30-Apr-2024**	15-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW228_240419, 0906_SW288_240419, 0906_SW289_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_SW212_240420	**20-Apr-2024**	**01-May-2024**	17-Oct-2024	✓	**01-May-2024**	17-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW240_240420, 0906_MW244_240420, 0906_MW245_240420, 0906_MW246_240420, 0906_MW249_240420, 0906_MW250_240420, 0906_MW251_240420, 0906_MW252_240420, 0906_MW253_240420, 0906_MW254_240420	**20-Apr-2024**	**30-Apr-2024**	17-Oct-2024	✓	**30-Apr-2024**	17-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406730**	Page	: 1 of 11
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66672	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: PO7		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 30		
No. of samples analysed	: 30		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5758521)									
EM2406730-007	0906_MW249_240420	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
EM2406730-019	0906_SW262_240416	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5760759)									
EM2406708-007	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
EM2406730-026	0906_SW236_240418	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

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: 5760759) - continued									
EM2406730-026	0906_SW236_240418	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: 5758521)									
EM2406730-007	0906_MW249_240420	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
EM2406730-019	0906_SW262_240416	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5760759)									
EM2406708-007	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

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: 5760759) - continued									
EM2406708-007	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EM2406730-026	0906_SW236_240418	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: 5758521)									
EM2406730-007	0906_MW249_240420	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
EM2406730-019	0906_SW262_240416	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: 5760759)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5760759) - continued									
EM2406708-007	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
EM2406730-026	0906_SW236_240418	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: 5758521)									
EM2406730-007	0906_MW249_240420	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
EM2406730-019	0906_SW262_240416	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5758521) - continued									
EM2406730-019	0906_SW262_240416	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: 5760759)									
EM2406708-007	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
EM2406730-026	0906_SW236_240418	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: 5758521)									
EM2406730-007	0906_MW249_240420	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EM2406730-019	0906_SW262_240416	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5760759)									
EM2406708-007	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EM2406730-026	0906_SW236_240418	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758521)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	98.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	95.1	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	104	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	96.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	91.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	87.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5760759)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	88.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	107	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	109	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	100	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	96.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	96.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758521)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	99.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	98.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.7	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	90.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.7	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5760759)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5760759) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	100	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	108	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758521)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.0	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	97.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.9	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	80.0	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.0	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	88.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5760759)								
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	107	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	93.6	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	100	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	94.3	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.3	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758521)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	96.3	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	99.8	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	79.3	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5760759)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	108	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	110	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	90.5	70.0	130
EP231P: PFAS Sums (QCLot: 5758521)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5760759)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5758521)							
EM2406730-013	0906_MW255_240417	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	99.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	104	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	92.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	94.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	76.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	73.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5760759)							
EM2406730-022	0906_SW212_240420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	91.8	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	104	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	105	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	84.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	95.9	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	81.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5758521)							

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: 5758521) - continued							
EM2406730-013	0906_MW255_240417	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	90.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	102	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	98.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	98.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	95.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	86.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	81.3	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	81.5	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	85.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	98.4	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5760759)							
EM2406730-022	0906_SW212_240420	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	103	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	102	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	97.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	86.5	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	76.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	79.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	75.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.2	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5758521)							
EM2406730-013	0906_MW255_240417	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	89.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	90.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	76.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	76.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	68.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5760759)							
EM2406730-022	0906_SW212_240420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	85.6	67.0	137

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: 5760759) - continued							
EM2406730-022	0906_SW212_240420	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	88.6	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	71.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5758521)							
EM2406730-013	0906_MW255_240417	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	100	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	100	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	70.4	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5760759)							
EM2406730-022	0906_SW212_240420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	96.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	102	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	73.4	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406730**	Page	: 1 of 15
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66672	Issue Date	: 02-May-2024 13:15
Sampler	: [redacted]		
Site	: PO7		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 30		
No. of samples analysed	: 30		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW240_240420	0906_MW244_240420	0906_MW245_240420	0906_MW246_240420	0906_MW247_240418
				Sampling date / time	20-Apr-2024 15:31	20-Apr-2024 16:42	20-Apr-2024 16:17	20-Apr-2024 15:31	18-Apr-2024 16:43
Compound	CAS Number	LOR	Unit		EM2406730-001	EM2406730-002	EM2406730-003	EM2406730-004	EM2406730-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.11**	<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		**0.02**	<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		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW240_240420	0906_MW244_240420	0906_MW245_240420	0906_MW246_240420	0906_MW247_240418
				Sampling date / time	20-Apr-2024 15:31	20-Apr-2024 16:42	20-Apr-2024 16:17	20-Apr-2024 15:31	18-Apr-2024 16:43
Compound	CAS Number	LOR	Unit		EM2406730-001	EM2406730-002	EM2406730-003	EM2406730-004	EM2406730-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.16**	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.13**	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.16**	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**100**	**95.1**	**103**	**104**
13C8-PFOA	----	0.02	%		**103**	**105**	**104**	**105**	**107**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW248_240418	0906_MW249_240420	0906_MW250_240420	0906_MW251_240420	0906_MW252_240420
				Sampling date / time	18-Apr-2024 16:19	20-Apr-2024 16:31	20-Apr-2024 16:20	20-Apr-2024 15:33	20-Apr-2024 15:40
Compound	CAS Number	LOR	Unit		EM2406730-006	EM2406730-007	EM2406730-008	EM2406730-009	EM2406730-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.08**	<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		**0.08**	<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		**0.05**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.02**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW248_240418	0906_MW249_240420	0906_MW250_240420	0906_MW251_240420	0906_MW252_240420
				Sampling date / time	18-Apr-2024 16:19	20-Apr-2024 16:31	20-Apr-2024 16:20	20-Apr-2024 15:33	20-Apr-2024 15:40
Compound	CAS Number	LOR	Unit		EM2406730-006	EM2406730-007	EM2406730-008	EM2406730-009	EM2406730-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.28**	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.16**	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.28**	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100.0**	**94.0**	**92.4**	**99.3**	**97.5**
13C8-PFOA	----	0.02	%		**104**	**104**	**102**	**102**	**104**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW253_240420	0906_MW254_240420	0906_MW255_240417	0906_MW256_240417	0906_MW257_240417
				Sampling date / time	20-Apr-2024 15:27	20-Apr-2024 15:29	17-Apr-2024 16:38	17-Apr-2024 16:29	17-Apr-2024 15:44
Compound	CAS Number	LOR	Unit		EM2406730-011	EM2406730-012	EM2406730-013	EM2406730-014	EM2406730-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.05**	**0.12**	**0.08**	**0.12**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.10**	**0.30**	**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		<0.02	**0.04**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.05**	<0.02	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.04**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.15**	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW253_240420	0906_MW254_240420	0906_MW255_240417	0906_MW256_240417	0906_MW257_240417
				Sampling date / time	20-Apr-2024 15:27	20-Apr-2024 15:29	17-Apr-2024 16:38	17-Apr-2024 16:29	17-Apr-2024 15:44
Compound	CAS Number	LOR	Unit		EM2406730-011	EM2406730-012	EM2406730-013	EM2406730-014	EM2406730-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.15**	**0.70**	**0.11**	**0.18**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.15**	**0.42**	**0.11**	**0.15**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.15**	**0.70**	**0.11**	**0.18**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.9**	**102**	**90.8**	**101**	**91.8**
13C8-PFOA	----	0.02	%		**104**	**103**	**100**	**100**	**102**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW206_240417	0906_SW218_240417	0906_SW234_240418	0906_SW262_240416	0906_SW294_240416
				Sampling date / time	17-Apr-2024 16:52	17-Apr-2024 16:40	18-Apr-2024 16:42	16-Apr-2024 16:53	16-Apr-2024 16:52
Compound	CAS Number	LOR	Unit		EM2406730-016	EM2406730-017	EM2406730-018	EM2406730-019	EM2406730-020
					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		**0.13**	**0.01**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.19**	<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		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW206_240417	0906_SW218_240417	0906_SW234_240418	0906_SW262_240416	0906_SW294_240416
				Sampling date / time	17-Apr-2024 16:52	17-Apr-2024 16:40	18-Apr-2024 16:42	16-Apr-2024 16:53	16-Apr-2024 16:52
Compound	CAS Number	LOR	Unit		EM2406730-016	EM2406730-017	EM2406730-018	EM2406730-019	EM2406730-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.35**	**0.01**	<0.01	<0.01	**0.01**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.32**	**0.01**	<0.01	<0.01	**0.01**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.35**	**0.01**	<0.01	<0.01	**0.01**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**99.9**	**102**	**100**	**92.7**
13C8-PFOA	----	0.02	%		**102**	**99.6**	**99.2**	**103**	**101**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW310_240417	0906_SW212_240420	0906_SW261_240416	0906_SW286_240418	0906_SW309_240415
				Sampling date / time	17-Apr-2024 16:26	20-Apr-2024 16:08	16-Apr-2024 17:07	18-Apr-2024 16:16	15-Apr-2024 17:03
Compound	CAS Number	LOR	Unit		EM2406730-021	EM2406730-022	EM2406730-023	EM2406730-024	EM2406730-025
					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		**0.04**	<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		**0.26**	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW310_240417	0906_SW212_240420	0906_SW261_240416	0906_SW286_240418	0906_SW309_240415
				Sampling date / time	17-Apr-2024 16:26	20-Apr-2024 16:08	16-Apr-2024 17:07	18-Apr-2024 16:16	15-Apr-2024 17:03
Compound	CAS Number	LOR	Unit		EM2406730-021	EM2406730-022	EM2406730-023	EM2406730-024	EM2406730-025
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.30**	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.30**	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.30**	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.0**	**99.8**	**96.0**	**104**	**102**
13C8-PFOA	----	0.02	%		**99.3**	**103**	**102**	**101**	**102**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW236_240418	0906_SW240_240418	0906_SW228_240419	0906_SW288_240419	0906_SW289_240419
				Sampling date / time	18-Apr-2024 16:35	18-Apr-2024 16:25	19-Apr-2024 16:34	19-Apr-2024 16:21	19-Apr-2024 16:13
Compound	CAS Number	LOR	Unit		EM2406730-026	EM2406730-027	EM2406730-028	EM2406730-029	EM2406730-030
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.04**	<0.02	**0.08**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.03**	<0.02	**0.02**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.30**	<0.01	**0.30**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**0.02**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.68**	<0.01	**0.54**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**0.02**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.11**	<0.02	**0.07**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.02**	<0.01	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0906_SW236_240418	0906_SW240_240418	0906_SW228_240419	0906_SW288_240419	0906_SW289_240419
				Sampling date / time	18-Apr-2024 16:35	18-Apr-2024 16:25	19-Apr-2024 16:34	19-Apr-2024 16:21	19-Apr-2024 16:13
Compound	CAS Number	LOR	Unit		EM2406730-026	EM2406730-027	EM2406730-028	EM2406730-029	EM2406730-030
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**1.22**	<0.01	**1.03**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.98**	<0.01	**0.84**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**1.17**	<0.01	**1.01**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**89.3**	**90.0**	**80.3**	**88.7**	**90.3**
13C8-PFOA	----	0.02	%		**99.3**	**101**	**86.0**	**101**	**97.1**

Surrogate Control Limits

Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

COC#: **66674** *ALS Laboratory:* EM Melbourne Environmental

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO5

ORDER NO:

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 - 13:22

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW233_240419		19/04/2024 04:14 PM	WATER	ALS: 6 Non ALS: 0	No	X		Internal lab QC

Environmental Division
Melbourne
Work Order Reference
EM2406731

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

COC#: 66674 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO5

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW233_240419	HDPE (no PTFE)	20 mL	00352312003335	Grey	No	
001	0906_MW233_240419	HDPE (no PTFE)	20 mL	00352312012598	Grey	No	
001	0906_MW233_240419	HDPE (no PTFE)	20 mL	00352312003035	Grey	No	
001	0906_MW233_240419	HDPE (no PTFE)	20 mL	00352312003411	Grey	No	
001	0906_MW233_240419	HDPE (no PTFE)	20 mL	00352312003337	Grey	No	
001	0906_MW233_240419	HDPE (no PTFE)	20 mL	00352312012701	Grey	No	

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

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406731**	Page	: 1 of 4
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO5	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 1
Order number	: -	No. of samples analysed	: 1

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

- **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							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2406731--001	0906_MW233_240419	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	58.7 %	70.0-130%	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0906_MW233_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0906_MW233_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0906_MW233_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0906_MW233_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0906_MW233_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406731**	Page	: 1 of 6
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66674	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: PO5		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

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: 5759782)									
EM2406731-001	0906_MW233_240419	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.16	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5759782)									
EM2406731-001	0906_MW233_240419	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782)									
EM2406731-001	0906_MW233_240419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782) - continued									
EM2406731-001	0906_MW233_240419	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: 5759782)									
EM2406731-001	0906_MW233_240419	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: 5759782)									
EM2406731-001	0906_MW233_240419	EP231X: Sum of PFAS	----	0.01	µg/L	0.36	0.37	2.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.31	0.32	3.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	0.35	2.9	0% - 20%

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	95.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.5	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.9	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	103	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	92.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	95.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	101	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	81.5	70.0	130
EP231P: PFAS Sums (QCLot: 5759782)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	0906_MW233_240419	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	82.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	102	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	69.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)							
EM2406731-001	0906_MW233_240419	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	73.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	71.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	79.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	85.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)							

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: 5759782) - continued							
EM2406731-001	0906_MW233_240419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	72.1	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	70.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	70.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	74.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	72.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	0906_MW233_240419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.4	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	94.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	87.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 58.7	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406731**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66674	Issue Date	: 02-May-2024 10:15
Sampler	: [redacted]		
Site	: PO5		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X: Poor matrix spike recovery for sample EM2406731-001 due to sample matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW233_240419	----	----	----	----
				Sampling date / time	19-Apr-2024 16:14	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2406731-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.02**	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.15**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.16**	----	----	----	----
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		**0.03**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW233_240419	----	----	----	----
				Sampling date / time	19-Apr-2024 16:14	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2406731-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.36**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.31**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.34**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.1**	----	----	----	----
13C8-PFOA	----	0.02	%		**102**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

CHAIN OF CUSTODY

ALS COC#: 66675 ALS Laboratory: EM Melbourne Environmental

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	[redacted] DATE TIME: 22/04/24 – 13:22

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO4

ORDER NO:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	WATER: PFAS WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0906_MW211_240415		15/04/2024 05:05 PM	WATER	ALS: 2 Non ALS: 0	No	X		
002	0906_MW212_240415		15/04/2024 05:01 PM	WATER	ALS: 2 Non ALS: 0	No	X		
003	0906_MW213_240415		15/04/2024 05:06 PM	WATER	ALS: 2 Non ALS: 0	No	X		
004	0906_MW258_240419		19/04/2024 03:33 PM	WATER	ALS: 2 Non ALS: 0	No	X		
005	0906_MW259_240419		19/04/2024 03:43 PM	WATER	ALS: 2 Non ALS: 0	No	X		

Environmental Division Melbourne

Work Order Reference

EM2406732

Telephone : + 61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: 66675 *ALS Laboratory:* EM Melbourne Environmental

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

CLIENT: MWHAUS - STANTEC AUSTRALIA PTY LTD

PROJECT: NSW_0906_PFASOMP_24

SITE: PO4

ORDER NO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: SY/139/19_Laverton / EM2023MWHAUS0002

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0906_MW211_240415	HDPE (no PTFE)	20 mL	00351221001635	Grey	No	
001	0906_MW211_240415	HDPE (no PTFE)	20 mL	00351221002112	Grey	No	
002	0906_MW212_240415	HDPE (no PTFE)	20 mL	00351221001801	Grey	No	
002	0906_MW212_240415	HDPE (no PTFE)	20 mL	00351221002053	Grey	No	
003	0906_MW213_240415	HDPE (no PTFE)	20 mL	00352312003293	Grey	No	
003	0906_MW213_240415	HDPE (no PTFE)	20 mL	00352312003099	Grey	No	
004	0906_MW258_240419	HDPE (no PTFE)	20 mL	00352312012534	Grey	No	
004	0906_MW258_240419	HDPE (no PTFE)	20 mL	00352312012451	Grey	No	
005	0906_MW259_240419	HDPE (no PTFE)	20 mL	00352312012465	Grey	No	
005	0906_MW259_240419	HDPE (no PTFE)	20 mL	00352312012496	Grey	No	

Total Bottle Count: ALS: 10, Non ALS: 0

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2406732**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Site	: PO4	Issue Date	: 02-May-2024
Sampler	: [redacted]	No. of samples received	: 5
Order number	: -	No. of samples analysed	: 5

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **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							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2406731--001	Anonymous	**10:2 Fluorotelomer sulfonic acid (10:2 FTS)**	120226-60-0	58.7 %	70.0-130%	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0906_MW211_240415, 0906_MW213_240415	0906_MW212_240415,	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW258_240419,	0906_MW259_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0906_MW211_240415, 0906_MW213_240415	0906_MW212_240415,	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW258_240419,	0906_MW259_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0906_MW211_240415, 0906_MW213_240415	0906_MW212_240415,	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW258_240419,	0906_MW259_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0906_MW211_240415, 0906_MW213_240415	0906_MW212_240415,	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW258_240419,	0906_MW259_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0906_MW211_240415, 0906_MW212_240415, 0906_MW213_240415	**15-Apr-2024**	**01-May-2024**	12-Oct-2024	✓	**01-May-2024**	12-Oct-2024	✓
HDPE (no PTFE) (EP231X) 0906_MW258_240419, 0906_MW259_240419	**19-Apr-2024**	**01-May-2024**	16-Oct-2024	✓	**01-May-2024**	16-Oct-2024	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

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

QUALITY CONTROL REPORT

Work Order	: **EM2406732**	Page	: 1 of 6
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66675	Issue Date	: 02-May-2024
Sampler	: [redacted]		
Site	: PO4		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 5		
No. of samples analysed	: 5		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5759782)									
EM2406731-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	0.16	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5759782)									
EM2406731-001	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	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782)									
EM2406731-001	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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5759782) - continued									
EM2406731-001	Anonymous	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: 5759782)									
EM2406731-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5759782)									
EM2406731-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.36	0.37	2.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.31	0.32	3.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	0.35	2.9	0% - 20%

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	91.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	92.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	95.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.2	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.7	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.7	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	93.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	89.5	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.9	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	103	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.7	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	92.0	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	95.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	101	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	81.5	70.0	130
EP231P: PFAS Sums (QCLot: 5759782)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	82.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	102	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	91.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	69.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	92.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	73.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	71.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	79.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	85.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5759782)							

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: 5759782) - continued							
EM2406731-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	72.1	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	70.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	70.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	74.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	72.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5759782)							
EM2406731-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.4	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	94.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	87.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	# 58.7	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: **EM2406732**	Page	: 1 of 5
Client	: **STANTEC AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: Level 28, 600 Bourke St MELBOURNE 3000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: [redacted]
Project	: NSW_0906_PFASOMP_24	Date Samples Received	: 22-Apr-2024 13:22
Order number	: -	Date Analysis Commenced	: 30-Apr-2024
C-O-C number	: 66675	Issue Date	: 02-May-2024 13:16
Sampler	: [redacted]		
Site	: PO4		
Quote number	: SY/139/19_Laverton		
No. of samples received	: 5		
No. of samples analysed	: 5		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X: Poor matrix spike recovery for sample EM2406731-001 due to sample matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW211_240415	0906_MW212_240415	0906_MW213_240415	0906_MW258_240419	0906_MW259_240419
				Sampling date / time	15-Apr-2024 17:05	15-Apr-2024 17:01	15-Apr-2024 17:06	19-Apr-2024 15:33	19-Apr-2024 15:43
Compound	CAS Number	LOR	Unit		EM2406732-001	EM2406732-002	EM2406732-003	EM2406732-004	EM2406732-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	**0.01**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.03**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0906_MW211_240415	0906_MW212_240415	0906_MW213_240415	0906_MW258_240419	0906_MW259_240419
				Sampling date / time	15-Apr-2024 17:05	15-Apr-2024 17:01	15-Apr-2024 17:06	19-Apr-2024 15:33	19-Apr-2024 15:43
Compound	CAS Number	LOR	Unit		EM2406732-001	EM2406732-002	EM2406732-003	EM2406732-004	EM2406732-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.01**	**0.05**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.01**	**0.05**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**0.01**	**0.05**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.9**	**73.5**	**80.4**	**88.3**	**79.0**
13C8-PFOA	----	0.02	%		**98.6**	**92.6**	**90.7**	**94.4**	**99.3**

Surrogate Control Limits

Sub-Matrix: **GROUNDWATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Cardno now Stantec

Chain of Custody

PM Name: [redacted]
Phone: Mobile: [redacted]
Address: Level 4, 501 Swanston Street, Melbourne, VIC 3000
PM Email: [redacted]
Project Number: Site: WAGGA / KAPOOKA
Laboratory EUROFINS Recipient: — Previously Contact no: [redacted]

Sample ID	Laboratory ID	Container	Sampling Date	Sampling Time	Sample Matrix: Water	Soil	Sample preservation: Ice	Analysis: PFAS 28 full suite	Hold
0315_QC200-240416	1	2 x plas	16/4		X		X	X	
0315_QC201_240416	2	1 x plas (soil)	16/4			X	X	X	
0315_QC202_240416	3	2 x plas	16/4		X		X	X	
~~0315_QC~~									
0906_QC203_240416	4	2 x plas	16/4		X		X	X	
0906_QC204_240417	5	"	17/4		X		X	X	
0906_QC205_240417	6	"	17/4		X		X	X	
0906_QC206_240418	7	"	18/4		X		X	X	
0906_QC207_240419	8	"	19/4		X		X	X	
0906_QC208_240419	9	"	19/4		X		X	X	
0906_QC209_240419	10	"	19/4		X		X	X	
0906_QC502_240420	11	"	20/4		X		X	X	

22/4/24 AW890100

Sampler: I attest that the proper field sampling proceedures were used during the collection of these samples. Sampler name: (print and [redacted] Date: 22/4

	Date	Time		Date	Time
Relinquished by (Sampler): (print and sig [redacted]	22/4		Received by (Courier/Lab): (print and signature)		
Relinquished by: (print and signature)			Received by: (print and signature)		
Relinquished by: (print and signature)			Received by: (print and signature)		

Please supply results electronically in spreadsheet and ESDAT files.

Turn around time: (5 days) Please circle

DATE: 22/4
TIME: 1.28 HA
COURIER: ✓
TEMPERATURE 1.5
ATTEMP TO CHILL YES NO

Stantec Australia Pty Ltd
Level 22, 570 Bourke Street
Melbourne
VIC 3000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: [redacted]

Report **1090100-S**
Project name WAGGA/KAPOOKA
Received Date Apr 22, 2024

Client Sample ID			**0315_QC201_240416**
Sample Matrix			**Soil**
Eurofins Sample No.			**M24-Ap0057724**
Date Sampled			**Apr 16, 2024**
Test/Reference	LOR	Unit	
Sample Properties			
% Moisture	1	%	26
Perfluoroalkyl carboxylic acids (PFCAs)			
Perfluorobutanoic acid (PFBA)[N11]	5	ug/kg	< 5
Perfluoropentanoic acid (PFPeA)[N11]	5	ug/kg	< 5
Perfluorohexanoic acid (PFHxA)[N11]	5	ug/kg	< 5
Perfluoroheptanoic acid (PFHpA)[N11]	5	ug/kg	< 5
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5
Perfluorononanoic acid (PFNA)[N11]	5	ug/kg	< 5
Perfluorodecanoic acid (PFDA)[N11]	5	ug/kg	< 5
Perfluoroundecanoic acid (PFUnDA)[N11]	5	ug/kg	< 5
Perfluorododecanoic acid (PFDoDA)[N11]	5	ug/kg	< 5
Perfluorotridecanoic acid (PFTrDA)[N15]	5	ug/kg	< 5
Perfluorotetradecanoic acid (PFTeDA)[N11]	5	ug/kg	< 5
13C4-PFBA (surr.)	1	%	66
13C5-PFPeA (surr.)	1	%	71
13C5-PFHxA (surr.)	1	%	78
13C4-PFHpA (surr.)	1	%	75
13C8-PFOA (surr.)	1	%	73
13C5-PFNA (surr.)	1	%	77
13C6-PFDA (surr.)	1	%	53
13C2-PFUnDA (surr.)	1	%	80
13C2-PFDoDA (surr.)	1	%	120
13C2-PFTeDA (surr.)	1	%	95
Perfluoroalkyl sulfonamido substances			
Perfluorooctane sulfonamide (FOSA)[N11]	5	ug/kg	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	5	ug/kg	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	5	ug/kg	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	5	ug/kg	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	5	ug/kg	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	10	ug/kg	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	10	ug/kg	< 10
13C8-FOSA (surr.)	1	%	98

Client Sample ID			0315_QC201_240416
Sample Matrix			**Soil**
Eurofins Sample No.			**M24-Ap0057724**
Date Sampled			**Apr 16, 2024**
Test/Reference	LOR	Unit	
Perfluoroalkyl sulfonamido substances			
D3-N-MeFOSA (surr.)	1	%	130
D5-N-EtFOSA (surr.)	1	%	131
D7-N-MeFOSE (surr.)	1	%	136
D9-N-EtFOSE (surr.)	1	%	148
D5-N-EtFOSAA (surr.)	1	%	152
D3-N-MeFOSAA (surr.)	1	%	108
Perfluoroalkyl sulfonic acids (PFSAs)			
Perfluorobutanesulfonic acid (PFBS)[N11]	5	ug/kg	< 5
Perfluorononanesulfonic acid (PFNS)[N15]	5	ug/kg	< 5
Perfluoropropanesulfonic acid (PFPrS)[N15]	5	ug/kg	< 5
Perfluoropentanesulfonic acid (PFPeS)[N15]	5	ug/kg	< 5
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5
Perfluoroheptanesulfonic acid (PFHpS)[N15]	5	ug/kg	< 5
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5
Perfluorodecanesulfonic acid (PFDS)[N15]	5	ug/kg	< 5
13C3-PFBS (surr.)	1	%	64
18O2-PFHxS (surr.)	1	%	64
13C8-PFOS (surr.)	1	%	50
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	5	ug/kg	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	5	ug/kg	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	5	ug/kg	< 5
13C2-4:2 FTSA (surr.)	1	%	64
13C2-6:2 FTSA (surr.)	1	%	74
13C2-8:2 FTSA (surr.)	1	%	96
13C2-10:2 FTSA (surr.)	1	%	81
PFASs Summations			
Sum (PFHxS + PFOS)*	5	ug/kg	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
% Moisture	Melbourne	Apr 22, 2024	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Melbourne	Apr 23, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Melbourne	Apr 23, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Melbourne	Apr 23, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Melbourne	Apr 23, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Melbourne	Apr 22, 2024	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Stantec Australia Pty Ltd (VIC)
Address: Level 22, 570 Bourke Street
Melbourne
VIC 3000

Project Name: WAGGA/KAPOOKA

Order No.:
Report #: 1090100
Phone:
Fax:

Received: Apr 22, 2024 1:28 PM
Due: Apr 30, 2024
Priority: 5 Day
Contact Name: [redacted]

Eurofins Analytical Services Manager : [redacted]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	0315_QC200_240416	Apr 16, 2024		Water	M24-Ap0057723		X
2	0315_QC201_240416	Apr 16, 2024		Soil	M24-Ap0057724	X	X
3	0315_QC202_240416	Apr 16, 2024		Water	M24-Ap0057725		X
4	0906_QC203_240416	Apr 16, 2024		Water	M24-Ap0057726		X
5	0906_QC204_240417	Apr 16, 2024		Water	M24-Ap0057727		X
6	0906_QC205_240417	Apr 16, 2024		Water	M24-Ap0057728		X
7	0906_QC206_240418	Apr 16, 2024		Water	M24-Ap0057729		X
8	0906_QC207_240419	Apr 16, 2024		Water	M24-Ap0057730		X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Stantec Australia Pty Ltd (VIC)
Address: Level 22, 570 Bourke Street
Melbourne
VIC 3000

Project Name: WAGGA/KAPOOKA

Order No.:
Report #: 1090100
Phone:
Fax:

Received: Apr 22, 2024 1:28 PM
Due: Apr 30, 2024
Priority: 5 Day
Contact Name: [redacted]

Eurofins Analytical Services Manager : [redacted]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
9	0906_QC208_240419	Apr 16, 2024		Water	M24-Ap0057731		X
10	0906_QC209_240419	Apr 16, 2024		Water	M24-Ap0057732		X
11	0906_QC502_240420	Apr 16, 2024		Water	M24-Ap0057733		X
Test Counts						1	11

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/kg	< 5			5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5			5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5			5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5			5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5			5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5			5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5			5	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 5			5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5			5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5			5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5			5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5			5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5			5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10			10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10			10	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5			5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5			5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5			5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5			5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5			5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5			5	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5			5	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	116			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	112			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	107			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	134			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	133			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	104			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	111			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	114			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	113			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	108			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	110			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	102			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	107			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	110			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	102			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	110			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	146			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	99			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	122			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	110			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	138			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	108			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	100			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	111			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	111			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	101			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	140			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	113			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	113			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	103			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	M24-Ap0057135	NCP	%	8.4	9.0	7.1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Stantec Australia Pty Ltd
Level 22, 570 Bourke Street
Melbourne
VIC 3000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: [redacted]

Report **1090100-W**
Project name WAGGA/KAPOOKA
Received Date Apr 22, 2024

Client Sample ID			0315_QC200_240416	0315_QC202_240416	0906_QC203_240416	0906_QC204_240417
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M24-Ap0057723	M24-Ap0057725	M24-Ap0057726	M24-Ap0057727
Date Sampled			Apr 16, 2024	Apr 16, 2024	Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	0.03	< 0.01	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	0.03	< 0.01	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	[N09]0.02	< 0.01	< 0.01	< 0.01
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	21	94	68	104
13C5-PFPeA (surr.)	1	%	81	92	99	92
13C5-PFHxA (surr.)	1	%	94	87	95	87
13C4-PFHpA (surr.)	1	%	100	86	98	87
13C8-PFOA (surr.)	1	%	102	85	95	89
13C5-PFNA (surr.)	1	%	109	110	118	127
13C6-PFDA (surr.)	1	%	96	88	104	99
13C2-PFUnDA (surr.)	1	%	78	67	74	76
13C2-PFDoDA (surr.)	1	%	72	67	70	74
13C2-PFTeDA (surr.)	1	%	75	58	48	60
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	118	112	121	120
D3-N-MeFOSA (surr.)	1	%	135	108	65	129
D5-N-EtFOSA (surr.)	1	%	133	110	59	131

Client Sample ID			0315_QC200_240416	0315_QC202_240416	0906_QC203_240416	0906_QC204_240417
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M24-Ap0057723	M24-Ap0057725	M24-Ap0057726	M24-Ap0057727
Date Sampled			Apr 16, 2024	Apr 16, 2024	Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D7-N-MeFOSE (surr.)	1	%	82	82	88	100
D9-N-EtFOSE (surr.)	1	%	82	87	87	104
D5-N-EtFOSAA (surr.)	1	%	75	70	77	78
D3-N-MeFOSAA (surr.)	1	%	80	68	77	75
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	[N09]0.02	< 0.01	< 0.01	< 0.01
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	[N09]0.03	< 0.01	< 0.01	< 0.01
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	[N09]0.02	< 0.01	< 0.01	< 0.01
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	96	94	100	96
18O2-PFHxS (surr.)	1	%	93	91	95	96
13C8-PFOS (surr.)	1	%	90	86	91	91
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	141	87	111	72
13C2-6:2 FTSA (surr.)	1	%	112	77	97	77
13C2-8:2 FTSA (surr.)	1	%	77	67	84	75
13C2-10:2 FTSA (surr.)	1	%	100	74	83	88
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	0.05	< 0.01	< 0.01	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.04	< 0.01	< 0.01	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.07	< 0.01	< 0.01	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	0.15	< 0.05	< 0.05	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	0.15	< 0.1	< 0.1	< 0.1

Client Sample ID			0906_QC205_240417	0906_QC206_240418	0906_QC207_240419	0906_QC208_240419
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M24-Ap0057728	M24-Ap0057729	M24-Ap0057730	M24-Ap0057731
Date Sampled			Apr 16, 2024	Apr 16, 2024	Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.02
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			0906_QC205_240417	0906_QC206_240418	0906_QC207_240419	0906_QC208_240419
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M24-Ap0057728	M24-Ap0057729	M24-Ap0057730	M24-Ap0057731
Date Sampled			Apr 16, 2024	Apr 16, 2024	Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	120	62	104	103
13C5-PFPeA (surr.)	1	%	99	86	99	91
13C5-PFHxA (surr.)	1	%	94	87	95	89
13C4-PFHpA (surr.)	1	%	94	90	100	95
13C8-PFOA (surr.)	1	%	93	87	99	93
13C5-PFNA (surr.)	1	%	125	114	135	133
13C6-PFDA (surr.)	1	%	99	94	111	113
13C2-PFUnDA (surr.)	1	%	71	67	81	80
13C2-PFDoDA (surr.)	1	%	66	64	76	75
13C2-PFTeDA (surr.)	1	%	41	56	48	48
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	118	117	128	118
D3-N-MeFOSA (surr.)	1	%	109	115	123	34
D5-N-EtFOSA (surr.)	1	%	108	112	123	32
D7-N-MeFOSE (surr.)	1	%	95	83	104	91
D9-N-EtFOSE (surr.)	1	%	96	82	110	87
D5-N-EtFOSAA (surr.)	1	%	73	67	84	86
D3-N-MeFOSAA (surr.)	1	%	72	71	81	81
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	[N09]0.04
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.01
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	[N09]0.05
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	[N09]0.45
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	100	96	101	101
18O2-PFHxS (surr.)	1	%	97	91	98	93
13C8-PFOS (surr.)	1	%	93	87	99	101

Client Sample ID			0906_QC205_240417	0906_QC206_240418	0906_QC207_240419	0906_QC208_240419
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M24-Ap0057728	M24-Ap0057729	M24-Ap0057730	M24-Ap0057731
Date Sampled			Apr 16, 2024	Apr 16, 2024	Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	89	92	89	71
13C2-6:2 FTSA (surr.)	1	%	89	83	93	78
13C2-8:2 FTSA (surr.)	1	%	83	71	87	80
13C2-10:2 FTSA (surr.)	1	%	75	76	91	95
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.45
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01	< 0.01	0.45
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	< 0.05	< 0.05	0.51
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	< 0.1	< 0.1	0.57

Client Sample ID			0906_QC209_240419	0906_QC502_240420
Sample Matrix			Water	Water
Eurofins Sample No.			M24-Ap0057732	M24-Ap0057733
Date Sampled			Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit		
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	91	80
13C5-PFPeA (surr.)	1	%	101	95
13C5-PFHxA (surr.)	1	%	96	92
13C4-PFHpA (surr.)	1	%	99	94
13C8-PFOA (surr.)	1	%	101	94
13C5-PFNA (surr.)	1	%	139	132
13C6-PFDA (surr.)	1	%	113	104
13C2-PFUnDA (surr.)	1	%	80	77
13C2-PFDoDA (surr.)	1	%	71	76
13C2-PFTeDA (surr.)	1	%	40	67

Client Sample ID			0906_QC209_240419	0906_QC502_240420
Sample Matrix			Water	Water
Eurofins Sample No.			M24-Ap0057732	M24-Ap0057733
Date Sampled			Apr 16, 2024	Apr 16, 2024
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	130	112
D3-N-MeFOSA (surr.)	1	%	122	109
D5-N-EtFOSA (surr.)	1	%	118	111
D7-N-MeFOSE (surr.)	1	%	105	88
D9-N-EtFOSE (surr.)	1	%	104	90
D5-N-EtFOSAA (surr.)	1	%	85	76
D3-N-MeFOSAA (surr.)	1	%	82	74
Perfluoroalkyl sulfonic acids (PFSAs)				
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	< 0.01	[N09]0.02
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	102	99
18O2-PFHxS (surr.)	1	%	103	98
13C8-PFOS (surr.)	1	%	100	90
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	91	85
13C2-6:2 FTSA (surr.)	1	%	90	85
13C2-8:2 FTSA (surr.)	1	%	87	82
13C2-10:2 FTSA (surr.)	1	%	81	83
PFASs Summations				
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	0.02
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	0.02
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	0.02
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Melbourne	Apr 24, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Melbourne	Apr 24, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Melbourne	Apr 24, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Melbourne	Apr 24, 2024	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Melbourne	Apr 22, 2024	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Stantec Australia Pty Ltd (VIC)
Address: Level 22, 570 Bourke Street
Melbourne
VIC 3000

Project Name: WAGGA/KAPOOKA

Order No.:
Report #: 1090100
Phone:
Fax:

Received: Apr 22, 2024 1:28 PM
Due: Apr 30, 2024
Priority: 5 Day
Contact Name: [redacted]

Eurofins Analytical Services Manager : [redacted]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	0315_QC200_240416	Apr 16, 2024		Water	M24-Ap0057723		X
2	0315_QC201_240416	Apr 16, 2024		Soil	M24-Ap0057724	X	X
3	0315_QC202_240416	Apr 16, 2024		Water	M24-Ap0057725		X
4	0906_QC203_240416	Apr 16, 2024		Water	M24-Ap0057726		X
5	0906_QC204_240417	Apr 16, 2024		Water	M24-Ap0057727		X
6	0906_QC205_240417	Apr 16, 2024		Water	M24-Ap0057728		X
7	0906_QC206_240418	Apr 16, 2024		Water	M24-Ap0057729		X
8	0906_QC207_240419	Apr 16, 2024		Water	M24-Ap0057730		X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	T: +61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins ProMicro Pty Ltd
ABN: 47 009 120 549

Perth ProMicro
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2561
Site# 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise,	43 Detroit Drive	1277 Cameron Road,
Penrose,	Mount Wellington,	Rolleston,	Gate Pa,
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Stantec Australia Pty Ltd (VIC)
Address: Level 22, 570 Bourke Street
Melbourne
VIC 3000

Project Name: WAGGA/KAPOOKA

Order No.:
Report #: 1090100
Phone:
Fax:

Received: Apr 22, 2024 1:28 PM
Due: Apr 30, 2024
Priority: 5 Day
Contact Name: [redacted]

Eurofins Analytical Services Manager : [redacted]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
9	0906_QC208_240419	Apr 16, 2024		Water	M24-Ap0057731		X
10	0906_QC209_240419	Apr 16, 2024		Water	M24-Ap0057732		X
11	0906_QC502_240420	Apr 16, 2024		Water	M24-Ap0057733		X
Test Counts						1	11

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	115			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	138			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	141			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	140			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	144			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	138			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	109			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	115			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	113			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	128			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	114			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	111			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	112			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	116			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	108			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	113			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	112			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	114			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	120			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	119			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	124			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	109			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	110			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	113			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	113			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	109			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	112			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	118			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	116			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	120			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	M24-Ap0057728	CP	%	116			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	M24-Ap0057728	CP	%	140			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	M24-Ap0057728	CP	%	141			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	M24-Ap0057728	CP	%	140			50-150	Pass	
Perfluorooctanoic acid (PFOA)	M24-Ap0057728	CP	%	144			50-150	Pass	
Perfluorononanoic acid (PFNA)	M24-Ap0057728	CP	%	136			50-150	Pass	
Perfluorodecanoic acid (PFDA)	M24-Ap0057728	CP	%	111			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	M24-Ap0057728	CP	%	112			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	M24-Ap0057728	CP	%	114			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	M24-Ap0057728	CP	%	94			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	M24-Ap0057728	CP	%	117			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	M24-Ap0057728	CP	%	112			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	M24-Ap0057728	CP	%	114			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	M24-Ap0057728	CP	%	115			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	M24-Ap0057728	CP	%	107			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	M24-Ap0057728	CP	%	116			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	M24-Ap0057728	CP	%	111			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	M24-Ap0057728	CP	%	109			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	M24-Ap0057728	CP	%	120			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	M24-Ap0057728	CP	%	113			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	M24-Ap0057728	CP	%	121			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	M24-Ap0057728	CP	%	106			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	M24-Ap0057728	CP	%	110			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	M24-Ap0057728	CP	%	120			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	M24-Ap0057728	CP	%	112			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	M24-Ap0057728	CP	%	99			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	M24-Ap0057728	CP	%	108			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M24-Ap0057728	CP	%	111			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	M24-Ap0057728	CP	%	116			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	M24-Ap0057728	CP	%	116			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorooctanoic acid (PFOA)	M24-Ap0057782	NCP	ug/L	0.04	0.04	3.0	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorohexanesulfonic acid (PFHxS)	M24-Ap0052066	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	M24-Ap0052066	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	M24-Ap0057772	NCP	ug/L	0.51	0.54	5.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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APPENDIX

D

FIELD RECORDS & CALIBRATION CERTIFICATES

Cardno

now

Stantec

Bore ID	Property	Easting	Northing	Monitoring Date	Bore Depth (m)	Top of casing (mAHD)	SWL (mbTOC)	SWL (mAHD)	Water Colour	Turbidity	Other Observations on Bore/Site	Hydrasleeve Deployment Depth (mBTOC)[1]	Duplicate Samples
MW200	Off-site	540489.09	6111231.75	17/04/2024	-	183.137	-	-	Clear	No		N/A	
MW204	Off-site	540107.16	6110883.61	17/04/2024	16.65	183.024	13.855	169.169	Clear, black suspended particles	No		36.9	
MW209	Off-site	542521.77	6114403.23	19/04/2024	Unknown	-	22.67	-	Clear	No		N/A	
MW211	On-site	535735.79	6113725.27	15/04/2024	-	-	-	-	Clear	No		N/A	
MW212	On-site	535681.87	6113475.53	15/04/2024	-	-	-	-	Clear	No		N/A	
MW213	On-site	536651.55	6114239.35	15/04/2024	-	180.533	-	-	Clear	No		N/A	
MW214	On-site	542678.11	6111434.75	17/04/2024	-	186.043	-	-	Clear	No		N/A	
MW215	On-site	542678.11	6111434.75	17/04/2024	49.74	-	-	-	Clear		No hydrasleeve in well, not sampled. Data logger retrieved and downloaded.	NA	
MW231	On-site	540910.71	6113541.05	19/04/2024	-	-	-	-	Clear	No		N/A	
MW233	Off-site	539802.59	6112448.66	19/04/2024	-	-	-	-	Clear	No		N/A	
MW235	Off-site	[redacted]	[redacted]	16/04/2024	-	-	-	-	Clear			N/A	
MW238	Off-site	540682.06	6112227.81	19/04/2024	71.3	182.88	13.87	169.01	Slightly cloudy	Low	No sediment in sleeve, no odour, no sheen. Data logger retrieved and downloaded.	66.1	
MW239	Off-site	540678.34	6112216.01	19/04/2024	21.28	182.8	13.568	169.232	Clear	Low	Data logger retrieved and downloaded.	19.1	
MW240	Off-site	538090.54	6112266.06	16/04/2024	16.45	182.54	12.789	169.751	Cloudy	Low		25.9	
MW241	Off-site	544118.31	6109524.74	18/04/2024	75.4	200.07	13.127	186.943	Slightly cloudy	No		69.3	
MW242	Off-site	544118.75	6109538.52	18/04/2024	63.5	199.89	13.155	186.735	Slightly cloudy	Low	Data logger retrieved and downloaded.	58.3	
MW243	On-site	542979.06	6110074.36	17/04/2024	55	211.48	39.01	172.47	Slightly cloudy	Low	Data logger retrieved and downloaded.	52.4	Duplicate sample QC104/204
MW244	Off-site	536997.10	6113055.36	20/04/2024	60	180.37	10.99	169.38	Slightly cloudy	Low	Suspended black particles, slight sulfuric odour. Data logger retrieved and downloaded.	57.5	
MW245	Off-site	537011.85	6113066.50	20/04/2024	20.8	180.37	11.38	168.99	Cloudy	Low	Data logger retrieved and downloaded.	19.5	
MW246	Off-site	541737.871	6110580.212	17/04/2024	70	189.563	19.661	169.902	Clear	No		30.2	
MW247	Off-site	536050.951	6112506.299	18/04/2024	35.03	181.343	11.34	170.003	Slightly cloudy	Low	Thin layer of sediment at bottom of sleeve, no sheen, no odour. Data logger retrieved and downloaded.	30.0	
MW248	Off-site	536049.397	6112509.06	18/04/2024	25.02	181.361	13.16	168.201	Slightly cloudy	Low	Thick, dark brown sediment in bottom of sleeve. Data logger retrieved and downloaded.	20.0	
MW249	Off-site	536082.812	6113454.968	17/04/2024	60.83	180.008	12.51	167.498	Cloudy	Low	Data logger unable to be retrieved and downloaded.	47.7	
MW250	Off-site	536087.341	6113452.451	20/04/2024	26	179.936	12.477	167.459	Slightly cloudy	Low	Data logger retrieved and downloaded.	22.6	
MW251	Off-site	536569.189	6113765.545	20/04/2024	24	178.394	10.874	167.52	Clear	No		19.2	
MW252	Off-site	536569.976	6113769.891	19/04/2024	60	178.607	10.81	167.797	Clear	No		47.5	
MW253	Off-site	537469.028	6112456.611	20/04/2024	48.87	180.991	12.501	168.49	Clear	No		45.5	
MW254	Off-site	537469.851	6112462.06	16/04/2024	25.85	181.122	12.026	169.096	Clear	No		18.6	
MW255	Off-site	539219.759	6112296.567	16/04/2024	57	182.094	12.84	169.254	Clear	No		49.0	
MW256	Off-site	539217.619	6112291.105	16/04/2024	22.5	182.128	12.638	169.49	Clear	Low		18.4	
MW257	Off-site	538761.456	6111519.667	17/04/2024	16.6	182.37	12.699	169.671	Cloudy	Medium		15.0	
MW258	Off-site	535907.627	6112894.103	19/04/2024	26.9	181.38	10.635	170.745	Clear	No			
MW259	Off-site	535902.153	6112900.437	19/04/2024	17.85	181.48	10.715	170.765	Cloudy	Low		13.3	
MW260	Off-site	540664.20	6114397.70	19/04/2024	-	-	-	-	Clear	No		N/A	
MW300	On-site	542277.11	6110129.15	17/04/2024	57	200.538	29.924	170.614	Cloudy brown	Medium		50.2	
MW301	On-site	542281.27	6110125.89	17/04/2024	19.1	200.705	-	-	-			N/A	
MW302	On-site	542356.16	6109473.31	17/04/2024	63.74	209.607	34.357	175.25	Clear	Low		61.5	Duplicate sample QC105/205
MW303	On-site	542358.37	6109470.43	17/04/2024	21.57	209.568	-	-	-			N/A	
MW304	On-site	541367.48	6108802.00	19/04/2024	69.4	211.767	39.02	172.747	Cloudy brown	Low	Sediment in bottom of sleeve. Data logger retrieved and downloaded.	48.5	Duplicate sample QC107/207
MW305	On-site	541363.15	6108795.52	19/04/2024	25.8	211.774	-	-	-			N/A	
MW306	On-site	542799.42	6107013.89	19/04/2024	62.4	233.058	44.506	188.552	Clear, slightly brown	No		54.0	
MW307	On-site	542791.05	6107014.44	19/04/2024	31.41	232.904	-	-	-			N/A	
MW308	On-site	543139.39	6109381.63	17/04/2024	66	213.901	42.03	171.871	Brown, slightly cloudy	High		51.7	
MW309	On-site	543133.57	6109377.71	17/04/2024	25.4	213.826	24.82	189.006	-			N/A	
MW310	On-site	543564.83	6108980.78	19/04/2024	46.1	210.274	22.83	-	Cloudy	Low		52.2	Duplicate sample QC109/209
MW311	On-site	543566.06	6108977.08	19/04/2024	22.15	210.651	17.237	193.414	Slightly cloudy	Low		20.6	Duplicate sample QC108/208
MW312	Off-site	541038.58	6111042.06	17/04/2024	62.65	182.97	12.67	170.3	Cloudy	Low	Light brown sediment at bottom of sleeve, no odour, no sheen. Data logger retrieved and downloaded.	53.0	
MW313	Off-site	541036.42	6111048.697	17/04/2024	12.06	182.99	-	-				N/A	

1. As measured from the top of the Hydrasleeve.

Bore ID	Property	Easting	Northing	Monitoring Date	Temp (C^0)	DO (mg/L)	EC (Non-Specific) (us/Cm)	TDS (mg/L)	pH	Eh (mV)	Aquifer
MW200	Off-site	540489.09	6111231.75	17/04/2024	17	2.82	1071	696	6.53	124.7	Lachlan
MW204	Off-site	540107.16	6110883.61	17/04/2024	16.7	0.86	373	243	7.27	-118.4	Lachlan
MW209	Off-site	542521.77	6114403.23	19/04/2024	25.9	1.47	374	243	6.46	13.4	Lachlan
MW211	On-site	535735.79	6113725.27	15/04/2024	19.2	3.93	346.5	225	6.52	93.8	Lachlan
MW212	On-site	535681.87	6113475.53	15/04/2024	20.30	2.89	467.30	304	6.53	91.80	Lachlan
MW213	On-site	536651.55	6114239.35	15/04/2024	20.3	4.38	258	168	6.6	87	Lachlan
MW214	On-site	542678.11	6111434.75	17/04/2024	22.3	2.49	455	296	6.53	11.6	Lachlan
MW215	On-site	542678.11	6111434.75	17/04/2024	-	-	-	-	-	-	Lachlan
MW231	On-site	540910.71	6113541.05	19/04/2024	20.2	8.1	448	291	6.49	78.1	Lachlan
MW233	Off-site	539802.59	6112448.66	19/04/2024	19	2.12	1633	1061	6.42	120.4	Cowra
MW235	Off-site	[redacted]	[redacted]	16/04/2024	-	-	-	-	-	-	Lachlan
MW238	Off-site	540682.06	6112227.81	19/04/2024	20.1	2.93	469	305	6.55	215.500	Lachlan
MW239	Off-site	540678.34	6112216.01	19/04/2024	19	4.48	1503	977	6.89	102.300	Cowra
MW240	Off-site	538090.54	6112266.06	16/04/2024	21.7	2.11	498	324	6.28	88	Cowra
MW241	Off-site	544118.31	6109524.74	18/04/2024	17.4	1.46	837	544	11.43	-143.4	Granite
MW242	Off-site	544118.75	6109538.52	18/04/2024	18	0.07	680	442	7.20	1.100	Lachlan
MW243	On-site	542979.06	6110074.36	17/04/2024	21.1	2.05	1189	773	6.58	118.900	Lachlan
MW244	Off-site	536997.10	6113055.36	20/04/2024	20.3	0.78	276.9	180	6.60	-91.800	Lachlan
MW245	Off-site	537011.85	6113066.50	20/04/2024	19.7	1.16	1055	686	5.90	55.800	Cowra
MW246	Off-site	541737.871	6110580.212	17/04/2024				0	6.57	129.2	Lachlan
MW247	Off-site	536050.951	6112506.299	18/04/2024	20.3	1.44	732	476	9.47	-21.300	Lachlan
MW248	Off-site	536049.397	6112509.06	18/04/2024	20.1	2.08	1456	946	6.77	108.900	Cowra
MW249	Off-site	536082.812	6113454.968	17/04/2024	28.4	1.69	415.3	270	6.39	122.000	Lachlan
MW250	Off-site	536087.341	6113452.451	20/04/2024	30.1	2.53	600	390	6.50	110.000	Cowra
MW251	Off-site	536569.189	6113765.545	20/04/2024	17.7	1.16	434	282	5.66	50.4	Cowra
MW252	Off-site	536569.976	6113769.891	19/04/2024	16.5	2.59	329	214	6.07	141.9	Lachlan
MW253	Off-site	537469.028	6112456.611	20/04/2024	18.3	2.93	294	191	6.30	217	Lachlan
MW254	Off-site	537469.851	6112462.06	16/04/2024	18.3	4.07	285	185	5.98	216.6	Cowra
MW255	Off-site	539219.759	6112296.567	16/04/2024	19.3	0.74	840	546	6.44	73.6	Lachlan
MW256	Off-site	539217.619	6112291.105	16/04/2024	19.2	5.90	1153	749	6.49	93.2	Cowra
MW257	Off-site	538761.456	6111519.667	17/04/2024	19.6	5.46	3332	2166	6.31	214.4	Cowra
MW258	Off-site	535907.627	6112894.103	19/04/2024	17.6	1.1	763	496	6.72	248.4	Lachlan
MW259	Off-site	535902.153	6112900.437	19/04/2024	18	3.18	451	293	5.51	228.9	Cowra
MW260	Off-site	540664.20	6114397.70	19/04/2024	19.3	4.33	212	138	6.61	111.7	Lachlan
MW300	On-site	542277.11	6110129.15	17/04/2024	19.8	4.70	1134	737	6.25	194.1	Lachlan
MW301	On-site	542281.27	6110125.89	17/04/2024							Cowra
MW302	On-site	542356.16	6109473.31	17/04/2024	21.1	3.73	834	542	6.33	150.9	Lachlan
MW303	On-site	542358.37	6109470.43	17/04/2024				0			Cowra
MW304	On-site	541367.48	6108802.00	19/04/2024	19.9	2.63	1635	1063	7.03	123.700	Lachlan
MW305	On-site	541363.15	6108795.52	19/04/2024							Cowra
MW306	On-site	542799.42	6107013.89	19/04/2024	20.4	2.01	1827	1188	6.86	244.5	Lachlan
MW307	On-site	542791.05	6107014.44	19/04/2024							Cowra
MW308	On-site	543139.39	6109381.63	17/04/2024	20.9	2.13	379	246	6.35	131.5	Lachlan
MW309	On-site	543133.57	6109377.71	17/04/2024							Cowra
MW310	On-site	543564.83	6108980.78	19/04/2024	18.6	2.63	1063	691	7.02	125.9	Lachlan
MW311	On-site	543566.06	6108977.08	19/04/2024	18.6	3.01	3913	2543	6.67	252.9	Cowra
MW312	Off-site	541038.58	6111042.06	17/04/2024	17.1	0.87	609	396	6.55	85.500	Lachlan
MW313	Off-site	541036.42	6111048.697	17/04/2024							Cowra

1. As measured from the top of the Hydrasleeve.

Sample ID	Property	Easting	Northing	Monitoring Date	Sample Depth (m)	Water Body Depth (m)	Flow Rate (m/s)	Flow Rate (Qualitative)	Water Colour	Turbidity	Channel Width (m)	Water Body Condition	Other Observations	Duplicate Samples	Temp (C^0)	DO (mg/L)	EC (Non-Specific) (US/Cm)	TDS (mg/L)	pH	Eh (mV)
SW104	On-site	542263.80	6110131.68	20/04/2024	NA	NA	0	Low	Clear	No	-	Underground sewage channel	No foaming, no microorganisms, algae present, no sheen, slight organic odour	-	19.4	6.88	310.5	199	7.79	144.3
SW206	Off-site	541675.39	6110527.28	17/04/2024	NA	NA	0.5	Medium	Clear	No	-	Stormwater discharge pipe	Foaming, no microorganisms, no algae, no sheen, slight sewage odour	-	19.6	5.35	419.3	268	8.14	92
SW212	Off-site	539563.37	6114381.22	20/04/2024	0.1	Unknown	1	Medium	Clear	No	10	River	No foaming, no microorganisms, no algae, no sheen, no odour	-	19.6	6.81	192.4	123	7.91	98.5
SW218	Off-site	541679.77	6110529.39	17/04/2024	NA	0.4	0.05	Low	Clear with some suspended particles	Low	-	Stormwater culvert	Foaming, no microorganisms, algae, no sheen, slight sewage odour	-	19.3	6.15	466.7	299	8.37	89.1
SW228	Off-site	543262.03	6112272.39	18/04/2024	0.3	Unknown	Stagnant	No	Cloudy with grain algae suspended	Medium	-	Sewage inflow pit	No foaming, microorganisms present, algae, no sheen, strong sewage odour	-	18.8	7.44	485.3	311	9.74	30.6
SW234	Off-site	536166.15	6112334.13	18/04/2024	0.1	Unknown	0	No	Clear	No	20	Creek	No foaming, no microorganisms, no algae, no sheen, no odour	-	18.1	4.73	620	397	7.04	105.6
SW236	Off-site	543767.40	6112318.00	18/04/2024	0.15	0.2	Stagnant	No	Clear slightly yellow	Low	10	Creek	slight foaming, microorganisms present, no algae, no sheen, odour of organics and manure	-	19.9	7.1	1100	704	8.1	71.5
SW240	Off-site	545028.00	6110672.00	18/04/2024	0.1	Unknown	0	No	Clear slight green	No	3	Creek	No foaming, microorganisms, algae, no sheen, no odour	-	19.5	10.71	1308	837	8.3	82.6
SW261	Off-site	534761.81	6114107.59	16/04/2024	0.3	Unknown	1	High	Clear	No	80	River	No foaming, no microorganisms, no algae, no sheen, no odour	Duplicate sample 103/203	19.4	6.27	156.7	100	7.73	94.1
SW262	Off-site	534970.84	6113903.83	16/04/2024	0.3	1.5	Stagnant	No	Clear	No	80	River	No foaming, no microorganisms, no algae, no sheen, no odour	-	18.4	7.22	279.4	179	7.58	101.2
SW286	Off-site	543605.67	6114255.45	18/04/2024	0.2	Unknown	1	High	Clear	No	80	River	No foaming, no microorganisms, no algae, no sheen, no odour	Duplicate sample 106/206	18.8	4.86	175.5	112	7.63	134.5
SW288	Off-site	542930.77	6112004.76	18/04/2024	NA	NA	0	High	Yellow	Low	-	Sewage pit	No foaming, no microorganisms, no algae, no sheen, strong sewage odour	-	20.2	1.16	528	338	7.57	-112.9
SW289	Off-site	543054.42	6112176.56	18/04/2024	NA	NA	0	High	Slightly yellow	Low	-	Sewage pit	No foaming, no microorganisms, no algae, no sheen, strong sewage odour	-	20.1	0.5	761	487	7.69	36.6
SW294	Off-site	535307.66	6113375.69	16/04/2024	NA	NA	0.1	Low	Clear	Clear	2	Culvert	Foaming, no microorganisms, algae, no sheen, no odour	-	18.1	6.92	249.9	160	8.81	94.3
SW309	Off-site	535436.96	6113744.17	15/04/2024	0.3	Unknown	1	High	Slightly cloudy	Low	120	River	No foaming, no microorganisms, no algae, no sheen, no odour	-	20.3	6.57	159.7	102	7.56	89.5
SW310	Off-site	538809.34	6111596.73	17/04/2024	0.1	0.15	Stagnant	No	Cloudy, slightly grey yellow	High	1	Road culvert	No foaming, no microorganisms, no algae, no sheen, no odour	-	17.4	3.43	175.2	112	6.83	78.8

F3.01 – Quality Control Sample Register

Project Details	
Project Name: Wagga Wagga	Job Number: 304300114
Site Address: Wagga Wagga	PP/PM: JL
Client Company/Contact:	Date:
Persons Present: MA/JL	Notes By: MA

Quality Control Requirements

Standard QC Sample Requirements (see Proposal for project specific details)

Rinsate Blank:	1/day (even if only placed on hold)
DI Water Blank:	1/day (even if only placed on hold)
Trip Blank:	1/day or 1/esky (if volatiles are suspected or present at site)
Blind Replicate (Primary List):	1 in 20 primary samples
Split Replicate (Secondary List):	1 in 20 primary samples

Labelling

Samples to be labelled **QC##_date** where "**##**" is a numerical sequence commencing at **01** for each field event and **date** is the date of sampling in ddmmyyyy format (**e.g. QC01_03112010**)

Quality Control Sample Register

QC Sample *e.g. QC01_03112010*	***Primary Sample***	***Description***	***DI Water Batch Number***
QC103/203_240417	SW261	Dup/Trip	
QC104/204_240417	MW243	Dup/Trip	
QC105/205_240417	MW302	Dup/Trip	
QC106/206_240418	SW286	Dup/Trip	
QC107/207_240419	MW304	Dup/Trip	
QC108/208_240419	MW311	Dup/Trip	
QC109/209_240419	MW310	Dup/Trip	
QC304_240417	-	Rinsate	
QC305_240417	-	Rinsate	
QC306_240418	-	Rinsate	
QC307_240418	-	Rinsate	
QC308_240419	-	Rinsate	
QC309_240419	-	Rinsate	
QC310_240420	-	Rinsate	
QC311_240420	-	Rinsate	
QC500_240420	-	Trip Blank	
QC501_240420	-	Trip Blank	

Stantec

Equipment Bump Test Record
YSI ProPlus Water Quality Meter

Project Management
YSI Bump Test Record

Date of Bump Test	Job Number	Unit No. Brand/Model	Ambient Air Oxygen Calibration		Zero % Oxygen Solution Calibration		Standard Concentrations (Y if present)		Ambient Temperature (°C)	Bump Test Readings	Bump Test Readings within ±5%?			Comment	Test by (Name)	(Signature)
16.4	0315		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 2[illegible] µS/cm @ [illegible] °C ORP: 247 mV @ 10 °C	Y / N Y / N Y / N Y / N Y / N	11.4	pH 4.00: 4.01 pH 7.00: 7.07 pH 10.00 — EC: 278 µS/cm @ 11 °C ORP: 345 mV @ 11 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N ~~Y / N~~ Y / N Y / N Y / N		[redacted]	[redacted]
17.4	0315		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 2[illegible] µS/cm @ 15 °C ORP 241 mV @ 15 °C	Y / N Y / N Y / N Y / N Y / N	13.1	pH 4.00: 3.97 pH 7.00: 7.09 pH 10.00 EC: 2[illegible] µS/cm @ 13 °C ORP 240 mV @ 13 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
18.4	0315		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 2[illegible] µS/cm @ 15 °C ORP: 241 mV @ 15 °C	Y / N Y / N Y / N Y / N Y / N	12.7	pH 4.00: 4.02 pH 7.00: 7.01 pH 10.00 EC: 2.86 µS/cm @ 12.7 ORP: 238 mV @ 12.7	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
19.4	0315		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 3.[illegible] µS/cm @ 15 °C ORP: 241 mV @ 10 °C	Y / N Y / N Y / N Y / N Y / N	11.2	pH 4.00: 4.04 pH 7.00: 6.95 pH 10.00 EC: 2.93 µS/cm @ 11 °C ORP: 240 V @ 11 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N ~~Y / N~~ Y / N Y / N Y / N			
20.4	0315		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 2.[illegible] µS/cm @ 25 °C ORP 234 mV @ 15 °C	Y / N Y / N Y / N Y / N Y / N	16.0	pH 4.00: 4.05 pH 7.00: 6.92 pH 10.00 EC: 2.65 µS/cm @ 16 °C ORP: 235 mV @ 16 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N ~~Y / N~~ Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: ___ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			

Stantec

Equipment Bump Test Record
YSI ProPlus Water Quality Meter

Project Management
YSI Bump Test Record

Date of Bump Test	Job Number	Unit No. Brand/Model	Ambient Air Oxygen Calibration		Zero % Oxygen Solution Calibration		Standard Concentrations (Y if present)		Ambient Temperature (°C)	Bump Test Readings	Bump Test Readings within ±5%?			Comment	Test by (Name)	(Signature)
16/4	3043691/4		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 2110 µS/cm @ 25 °C ORP: 251 mV @ 10 °C	Y / N Y / N Y / N Y / N Y / N	9°C	pH 4.00: 4.02 pH 7.00: 7.11 pH 10.00 X EC: 2803 µS/cm @ 25 °C ORP: 25 mV @ 10 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N		[redacted]	
17/4	11		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: 2160 µS/cm @ 25 °C ORP: __ mV @ __ °C	Y / N Y / N Y / N Y / N Y / N	13.6	pH 4.00: 4.06 pH 7.00: 6.94 pH 10.00 X EC: 2217 µS/cm @ 25 °C ORP: 25 mV @ 13 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N	@EC Recal		
18/4	11		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N	12.7	pH 4.00: 4.08 pH 7.00: 6.92 pH 10.00 EC: 1952 µS/cm @ 25 °C ORP: 248 mV @ 11 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N	Redox Re cal		
19/4	11		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N	[illegible]	pH 4.00: 4[illegible] pH 7.00: 7.07 pH 10.00 EC: __ µS/cm @ _ °C ORP: 25 mV @ 11 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
20/4	11		100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N	16.0	pH 4.00: 4.02 pH 7.00: 7.09 pH 10.00 X EC: 2[illegible] µS/cm @ 25 °C ORP: 242 mV @ 15 °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			
			100% Saturation?	Y / N	0% Calibration	Y / N	pH 4.00 pH 7.00 pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	Y / N Y / N Y / N Y / N Y / N		pH 4.00: pH 7.00: pH 10.00 EC: __ µS/cm @ _ °C ORP: __ mV @ _ °C	pH 4.00: pH 7.00: pH 10.00 EC: ORP: Temp:	(± pH 0.2) (± pH 0.2) (± pH 0.2) (± 150µS/cm) (± 10mV) (± 2°C)	Y / N Y / N Y / N Y / N Y / N Y / N			

Equipment Calibration Form
YSI ProPlus

Enqip #: 22054
Company: Stantec Australia Pty Ltd
Consultant: [redacted]
PO #: 304300114
Certificate #: 32529

INSTRUMENT IDENTIFICATION

Model Number: 6050000
Serial Number: 18L100379
Instrument Type: YSI ProPlus

INSPECTION RECORD

Batteries Checked:	PASS	**Date & Time:**	PASS
Electrodes Cleaned/Checked:	PASS	**Temperature:**	PASS

CALIBRATION DETAILS

Sensor	Cal Solution	Value	Reading
pH	Buffer 4.00	4.00 pH	4.00 pH
	Buffer 7.00	7.00 pH	7.00 pH
Redox	Standard ORP	241.0 mV @ 15.0 °C	241.0 mV
O_2	Zero Dissolved Oxygen	0.0 %	0.0 %
	Air	100.0 %	100.0 %
Conductivity	Standard Conductivity	2.76 mS/cm	2.76 mS/cm

Calibration Successful: YES

Calibrated By: [redacted] **Test Date:** 12/04/2024

Instrument Quality Report
Interface Meter

Enqip #: 22054
Company: Stantec Australia Pty Ltd
Consultant: [redacted]
PO #: 304300114
Certificate #: 32530

INSTRUMENT IDENTIFICATION

Instrument Type: Solinst Interface Meter
Model Number: 122
Serial Number: IM-1607

INSPECTION RECORD

Battery:	PASS	**Water Tone:**	PASS
Tape Condition:	PASS	**Hydrocarbon Tone:**	PASS

Tested By: [redacted] **Test Date:** 12/04/2024

Equipment Quality Report
Water Level Meter

Enqip #: 22054
Company: Stantec Australia Pty Ltd
Consultant: [redacted]
PO #: 304300114
Certificate #: 32531

INSTRUMENT IDENTIFICATION

Model Number: 100/122
Serial Number: 336585
Instrument Type: Solinst Interface Meter

INSPECTION RECORD

Battery:	PASS	**Water Beeper:**	PASS
Tape Condition:	PASS	**Equipment Condition:**	PASS

Tested By: [redacted]

Test Date: 12/04/2024

Equipment Calibration Form
YSI ProPlus

Enqip #: 22054
Company: Stantec Australia Pty Ltd
Consultant: [redacted]
PO #: 304300114
Certificate #: 32528

INSTRUMENT IDENTIFICATION

Model Number: 6050000
Serial Number: 18G100362
Instrument Type: YSI ProPlus

INSPECTION RECORD

Batteries Checked:	PASS	**Date & Time:**	PASS
Electrodes Cleaned/Checked:	PASS	**Temperature:**	PASS

CALIBRATION DETAILS

Sensor	Cal Solution	Value	Reading
pH	Buffer 4.00	4.00 pH	4.00 pH
	Buffer 7.00	7.00 pH	7.00 pH
Redox	Standard ORP	241.0 mV @ 15.0 °C	241.0 mV
O_2	Zero Dissolved Oxygen	0.0 %	0.0 %
	Air	100.0 %	100.0 %
Conductivity	Standard Conductivity	2.76 mS/cm	2.76 mS/cm

Calibration Successful: YES

Calibrated By: [redacted] **Test Date:** 12/04/2024

APPENDIX

E

DATA QUALITY REVIEW

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Data Quality Review
RAAF Base Wagga, NSW, 2650

This Appendix reviews the Quality Assurance (QA) and Quality Control (QC) documentation. Quality assurance encompasses the actions, procedures, checks and decisions undertaken to ensure sample integrity and representativeness, and the reliability and accuracy of analysis results. The QA documentation should also include an indication of the Data Quality Objectives sought in relation to each significant action, test or process involved in the Assessment.

QC activities measure the effectiveness of the QA procedures by undertaking testing, and then comparing results to previously established objectives. QC work will include the internal laboratory testing as well as results of QC samples submitted such as trip blanks and duplicates. The quality of the information and/or data is deemed satisfactory when the QC results demonstrate that agreed objectives have been met.

Cardno undertook a review of its QA/QC as part of the data validation exercise. The findings are summarised below.

QA/QC Aspects	Evidence and Evaluation
	QA Documentation
Sampling and Analysis Quality Plan and Data Quality Objectives	Cardno was engaged by Department of Defence (the client) to carry out the PFAS Ongoing Monitoring Plan (OMP) of RAAF Base Wagga, NSW, 2650 (the site). The monitoring event commenced on 16 April to 20 April and is in general accordance with the scope and limitations presented in Cardno's Sampling and Analysis Quality Plan (SAQP) of 8 April 2024 (Our Ref: 20191021_OMP002_Wagga_SAQP_Rev10 The assessment was carried out in general compliance with the following: ▪ Australian Standard AS 4482-2005 Guide to the investigation and sampling of sites with potentially contaminated soils, Part 1 - Non-volatile and semi-volatile compounds. ▪ Department of Defence (2019a), Contamination Management Manual (DCMM), August 2019. ▪ Department of Defence, Department of Energy (2018), Quality System Manual Schedule B15, USEPA DQO Process. ▪ Department of Defence (2021c), Contamination Management Manual (DCMM), Annex L – Data Management, August 2019, Amended June 2021. ▪ EPA Victoria (2009), Industrial Waste Resources Guidelines, Sampling and Analysis of Waters, Wastewaters, Soils and Wastes, Publication 701. ▪ Heads of Environmental Protection Authority's Australia and New Zealand (HEPA) (2020), PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. ▪ National Environment Protection Council (NEPC), 1999, National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013) (ASC NEPM). ▪ National Health and Medical Research Council (NHMRC) (2019), Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water, August 2019. ▪ USEPA (2000), Guidance for the Data Quality Objectives Process (EPA QA/G-4). A quality control program was implemented during the investigation and the quality assurance procedures used have been reiterated in the report.

QA/QC Aspects	Evidence and Evaluation
	The investigation was carried out in accordance with the Safe Work method Statements (SWMS) and Occupational Health and Safety (OHS) plan for the site. Detailed work plans were also provided for each phase of investigation and are outlined in the SAQP. The Data Quality Objectives were expressed in terms of the purpose of the assessment and the relevant assessment criteria.
Data Validation Report	This review constitutes a data validation review. This was supported by an ESdat generated "QAQC Checker" excel report, summarised in Tables B3 and B4, Appendix B.
Data Representativeness	
Holding Times	Groundwater and surface water sample analysis holding times were in conformance with EPA Publication IWRG701 2009 *'Sampling and Analysis of Waters, Wastewaters, Soils and Wastes*.
Background Samples	No background samples were collected as part of this assessment.
Equipment Decontamination	The decontamination methodology conducted during this investigation is documented in the body of the report, and was in general conformance with the SAQP and work plans. ▪ All re-usable sampling equipment was thoroughly washed using "PFAS-free" & phosphate-free detergent, then double rinsed with de-ionised water before the sample collection.
Lab Reports Considered for this Assessment	Please refer to Appendix C
Data Precision and Accuracy	
QC Testing – Blind Replicates (Primary Lab)	***Groundwater*** ▪ Acceptance Criteria: RPD < 30% ▪ Groundwater Samples Analysed: 40 ▪ Blind Replicate Samples Analysed: 5 ▪ Blind Replicate Analyte Pairs: 140 (excludes 'analytes' that are a summation of other analytes) ▪ Number of Analyte Pairs Exceeding Criteria: 0 ▪ Percentage of Analyte Pairs Exceeding Criteria: 0% There were no RPD exceedances reported for PFAS compounds. RPD results are presented in Table B3, Appendix B. ***Surface water*** ▪ Acceptance Criteria: RPD < 30 % ▪ Surface water Samples Analysed: 16 ▪ Blind Replicate Samples Analysed: 2 ▪ Blind Replicate Analyte Pairs: 56 (excludes 'analytes' that are a summation of other analytes) ▪ Number of Analyte Pairs Exceeding Criteria: 0 ▪ Percentage of Analyte Pairs Exceeding Criteria: 0% There were no RPD exceedances reported for PFAS compounds. RPD results are presented in Table B3, Appendix B.
QC Testing – Field Splits (Secondary Lab)	***Groundwater*** ▪ Acceptance Criteria: RPD < 30% ▪ Groundwater Samples Analysed: 40 ▪ Blind Replicate Samples Analysed: 5 ▪ Blind Replicate Analyte Pairs: 140 (excludes 'analytes' that are a summation of other analytes) ▪ Number of Analyte Pairs Exceeding Criteria: 0

QA/QC Aspects	Evidence and Evaluation
	▪ Percentage of Analyte Pairs Exceeding Criteria: 0% There were no RPD exceedances reported for PFAS of the investigation. RPD results are presented in Table B3, Appendix B. ***Surface water*** ▪ Acceptance Criteria: RPD < 30 % ▪ Surface water Samples Analysed: 16 ▪ Blind Replicate Samples Analysed: 2 ▪ Blind Replicate Analyte Pairs: 56 (excludes 'analytes' that are a summation of other analytes) ▪ Number of Analyte Pairs Exceeding Criteria: 0 ▪ Percentage of Analyte Pairs Exceeding Criteria: 0% There were no RPD exceedances reported for PFAS compounds. RPD results are presented in Table B3, Appendix B.
Trip Blanks	Three (3) trip blanks were collected and laboratory tested for PFAS. All analytes were reported below the limit of reporting (LOR), with the exception of QC502, which reported PFOS at 0.02 ug/L. QC502 was the trip blank for the split samples that were delivered to Eurofins. This detection is not considered to affect the validity of the results, as three of the split samples (QC206, QC207, QC209) reported all results <LOR and no significant interlaboratory RPD exceedances were noted overall. Trip blank results are presented in Table B4, Appendix B.
Laboratory Internal QC	Evidence of the laboratories internal QC testing is present and complete. Both ALS (the primary laboratory) and Eurofins-mgt performed internal QC with mostly adequate testing and satisfactory results for matrix spikes, method blanks and laboratory duplicates.
Laboratory Method Detection Limit	Laboratory reports indicate the method detection limits were lower than the respective assessment criteria.
NATA endorsement of laboratory reports	Laboratory reports were stamped with the NATA endorsement stamp and signature. Laboratory reports are included in Appendix C of this report.
Calibration of Field Equipment	All field equipment used was calibrated by the equipment supplier. Additionally, daily bump tests were performed of the water quality meter throughout the monitoring event. Certificates are included in Appendix D of this report.
Decontamination and Equipment Blanks	All re-usable sampling equipment was thoroughly washed using PFAS & phosphate-free detergent, then double rinsed with de-ionised water before the sample collection. Twelve (12) rinsate blanks were collected and laboratory tested for PFAS. No PFAS compounds reported above LOR in any rinsate blank sample, indicating that decontamination was adequate. Rinsate blank samples were tested for PFAS which all reported a concentration below the laboratory LOR. Results are shown in Table B4, Appendix B.
Data Comparability	
Full Review of Data	Once all results have been received, Cardno undertook a full review of the data for any anomalies in consideration of historical data at each location (where available), such as first-time detections or exceedances being reported at locations which have not had detections or exceedances previously. Where potentially anomalous data is identified or suspected, further confirmatory measures were undertaken such as re-extraction and reanalysis of the sample by the laboratory and/or additional data quality review. MW255 was re-extracted and reanalysed, with the original result confirmed.
Standard Procedures	Fieldwork procedures are detailed in the report and followed the work methods outlined in the SAQP.
Qualified Personnel	Staff involved in managing and reviewing the project and those involved in fieldwork are qualified personnel.
Volatile Losses	Volatile losses are not applicable to PFAS.

QA/QC Aspects	Evidence and Evaluation
Sample Integrity	Field Chain of Custody forms are included in Appendix C of this report and demonstrate sample integrity.
Data Completeness	
Completeness of Test Program	The scope of work undertaken was generally consistent with that set out in the Sampling and Analysis Quality Plan (SAQP). Variations to the SAQP are detailed in the Factual Report.
Validity of Data Set	The data quality review indicates no significant systematic errors in the data collection process for surface water and groundwater and therefore, the data set used as the basis for the assessment is considered valid and complete.

APPENDIX

F

INFORMATION ABOUT ENVIRONMENTAL REPORTS

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About Site Environmental Assessment Reports

1. Introduction

This document explains the Environmental Site Assessment (ESA) process and the context that applies to the use of Environmental Reports issued by Cardno.

2. What is an ESA?

Environmental Site Assessments (ESA) are undertaken for a range of purposes, specific to the brief issued by the client in each case. The scope may include one or a combination of any of the following:

- A factual report of the condition of a portion of the site or one aspect of an entire site.
- Assessment of the contamination levels in soil to be removed from a site – a waste classification assessment.
- Validation of the success of remediation of a site or a portion of a site.
- Provision of a professional opinion about the suitability of a site for one or more uses, in terms of its contamination status.

The scope of any ESA needs to be defined at the outset.

An ESA is not an Environmental Audit. Such audits are undertaken in accordance with the provisions of regulations enacted in various states of Australia, and are referred to as Site Audits in some jurisdictions. Statutory audits provide certification by EPA accredited auditors that a site is suitable for one or more uses. An ESA may provide similar advice but cannot be used in place of an audit if the latter is required by regulation in any instance. However in some circumstances and jurisdictions an ESA is sufficient to provide "environmental sign-off" of a site.

An ESA may be undertaken for due diligence purposes, to establish whether the site has been impacted to the extent that some beneficial uses of the site may be precluded. Due diligence audits in many cases may be completed as non-statutory Audits, although in some jurisdictions they can also be statutory audits, if defined as such at the outset.

3. The ESA Process

The Client generally initiates the ESA process by specifying a brief which identifies the specific objectives of the assessment. If not, it is the consultants' duty to so specify the ESA

In the case of an ESA to provide an opinion about the suitability of the site for use, it would be conducted in accordance with NEPM (Site Assessment). Such ESA would not commence until a thorough site history assessment (Phase 1 Assessment: to identify the potential for significant contamination at a site) is conducted. However, where the history is unclear, a broad screening of chemical parameters can be used to test environmental media. This normally includes a broad range of organic and inorganic compounds and elements, often referred to as an Environmental Screen.

(In the case of an ESA for a purpose other than to provide an opinion about the suitability of the site for use, it is not always necessary to undertake a Phase 1 assessment.)

The ESA requires sampling of soil at representative locations across the site. A NATA accredited laboratory performs the analysis of soil. It is impractical for all of the soil to be assessed. The ESA is often based on a statistical method of grid or random sampling, augmented by targeted sampling at locations known or suspected to be contaminated. Guidance on sampling strategy and density is provided in Australian Standard AS4482.1–2005. However, some considerable degree of judgement is still required in the application of any sampling and testing strategy. For example the blanket application of the "hot spot" method presented in this standard is often inappropriate given its limitations.

The field program also investigates the likelihood of contamination below the site surface. Field investigations must sample and test fill as well as the natural soils. If contamination is found then it is common for further work to be undertaken to characterise, to the extent practical, its vertical and horizontal extent. However, where fill is encountered and testing shows it to be uncontaminated, it must be realised that the heterogeneous nature of the material might mean that not all pockets of contaminated material can be detected using normal sampling regimes.

EPA guidelines for auditors, that may be relevant for an ESA, indicate the need in all cases to consider the potential for groundwater contamination in any site. This does not mean all sites need to be drilled to sample groundwater, but it is most often the case. Most hydrogeological settings and groundwater conditions are complex and vary in space and time. The condition of groundwater is investigated to identify if any beneficial use or environmental value of groundwater is precluded due to contamination.

As previously stated for soil, all groundwater at the site cannot be tested. The environmental investigations are conducted in accordance with industry standards and guidelines (e.g. EPA Vic Pub 668). This provides a level of confidence that a sufficiently comprehensive assessment of the groundwater at the site is achieved.

Where an investigation shows that groundwater is polluted, consideration should be given to assessing the risks and the need for and practicality of any clean up.

4. Environmental Assessment Report

The ESA Report details the findings of the ESA. It provides summary information on the site definition, the reasons for the assessment and other relevant facts. It reviews the scope and quality of the site investigations, laboratory testing and data analyses undertaken. These reports also present a review of the contamination status of the site, the need for any further clean up, and an opinion on the suitability of the site for a range of beneficial uses and land uses such as “residential – low density”, “commercial” etc, as appropriate.

However, as noted above, some ESA have a narrow scope such as for classification of waste soil for removal from site, and do not make conclusions on suitability of site for use.

The ESA Report generally includes copies of other documents and reports, necessary to support the assessment findings, presented as appendices. These can contain more detailed information than the body of the ESA Report. Care should be taken to also read the appended documents and the ESA report in full.

Cardno generally issues reports in electronic form (e-Report) on CD ROM. ESA Reports are issued in this format as Adobe Acrobat™ PDF files. However, a paper copy of the executive summary of the ESA Report is generally issued to the client, and others as required by the brief or by regulation.

5. Limitations of Environmental Assessment Report

The ESA Report is prepared in a manner that can be easily read by a lay person with a legitimate interest in the contamination status of the site, such as the site owner or occupier, EPA and Local Planning Authority. The ESA report is not intended for use by other parties or for other purposes. Anyone who uses the assessment report for purposes other than specified in the report, does so at their own risk.

The site should only be used for one or more of the beneficial uses and land uses identified in the ESA as suitable.

The conditions and qualifications may apply to the suitability of the site for use, and it is the responsibility of the Client to be cognizant of and accept these in accepting the report. Cardno are only responsible for the issuing of the ESA report but accepts no liability for the costs incurred in the implementation of ESA findings.

The ESA provides a “snapshot” of the site conditions at the time of the site investigation. Consequently, the report may not be valid at a later time if there has been any change to the contamination status of the site in that time. Verification of the status of the site may be required in cases where a significant time has elapsed, or site conditions have changed since the assessment and audit.

The ESA is necessarily limited by constraints such as time, cost and available information; although normal professional practice at the time has been applied with all due care to prepare the report. A necessary requirement of this process is the horizontal and vertical interpolation of data from discrete locations. However, site conditions are generally not homogenous and some discrepancies will occur between the actual and predicted results at locations not directly sampled. There is a risk that contamination may occur at the site and not be identified by a competent investigation and assessment. The approach adopted in sampling (a combination of statistically based grid and judgmental sampling) seeks to reduce, but cannot eliminate, this risk.

Where unexpected occurrences of contamination arise, subsequent to the issue of the ESA Report, Cardno should be permitted to make an interpretation of these facts in relation to the ESA Report findings. Consequently, the Client should inform Cardno and seek their opinion. Cardno accepts no liability for costs incurred due to such

unexpected occurrences, given the inherent uncertainties in the assessment process.

Cardno uses information provided by other parties as the basis for the ESA, and reliance on this information is at the discretion of Cardno. However, however Cardno cannot guarantee any of the facts, findings or conclusions presented by other parties. Cardno will not be liable for the use of information, provided by others that is subsequently found to be intentionally misleading.

The ESA Report is not and does not purport to be anything other than a contaminated land ESA. It is not a geotechnical report and bore logs reproduced are for interpretation of the likely distribution of contamination. They are not intended for geotechnical interpretations and may not be adequate for this purpose.

The ESA Report is not intended to be a comprehensive analysis of the presence and associated risk of asbestos in buildings and services. Where asbestos in buildings and services is known or likely, the report may only caution that an appropriately qualified person be engaged to undertake demolition to avoid contamination of the site.

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13 August 2015

Appendix E. Jacobs (2025b) RAAF Base Wagga, PFAS OMP Sampling Event Report: February 2025

RAAF Base Wagga, PFAS OMP Sampling Event Report: February 2025

Document no: IS419100-WAG-NP-RPT-01
Revision: 3

Department of Defence
PFAS 2021/22 – 194

RAAF Base Wagga, OMP
20 August 2025

RAAF Base Wagga, PFAS OMP Sampling Event Report: February 2025

Client name:	Department of Defence		
Project name:	RAAF Base Wagga, OMP		
Client reference:	PFAS 2021/22 – 194	Project no:	IS419100
Document no:	IS419100-WAG-NP-RPT-01	Project manager:	GM
Revision:	3	Prepared by:	BG
Date:	20 August 2025	File name:	IS419100-WAG-NP-RPT-01_Rev 3 WAG OMP Sampling Event Report
Document status:	Final		

Document history and status

Revision	Date	Description	Author	Reviewed	Approved
0	14/04/2025	Draft	BG	DL	DL
1	04/08/2025	Revised draft following Defence comments	PS	GM	DL
2	19/08/2025	Revised draft following Defence comments	GM	GM	DL
3	20/08/2025	Final	GM	GM	DL

Jacobs Group (Australia) Pty Ltd

Level 4, 12 Stewart Avenue
Newcastle West, NSW 2302
PO Box 2147
Dangar, NSW 2309
Australia

T +61 2 4979 2600
F +61 2 4979 2666
www.jacobs.com

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Acronyms and abbreviations

Acronym	Term
ADWG	Australian Drinking Water Guidelines
DAC	Defence Acceptance Criteria
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved Oxygen
DoH	Department of Health
DQI	Data Quality Indicator
DQO	Data Quality Objective
EC	Electrical Conductivity
Eh	Electrochemical or Reduction/Oxidation Potential
EP231X	In-House Laboratory method using solid phase extraction
FSANZ	Food Standards Australia New Zealand
GGPID	Gumly Gumly Private Irrigation District
HEPA	Heads of Environment Protection Authority
LC-MS/MS	Liquid Chromatography-Tandem Mass Spectrometry
LOR	Limit of Reporting
MW	Monitoring Well
NATA	National Analytical Testing Authority
NEMP	National Environmental Management Plan
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation Redox Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid

Acronym	Term
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
RPD	Relative Percentage Difference
SAQP	Sample and Analysis Quality Plan
SU	Standard Units
SW	Surface Water

Units	Term
˚C	Degrees Celsius
µg/L	Micrograms per Litre
µS/cm	MicroSiemens per centimetre
g	Grams
km	Kilometre
L	Litre
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
mbTOC	Metres below Top of Casing
mg/L	Milligrams per Litre
mV	MilliVolts

1. Introduction

The Department of Defence (Defence) has engaged Jacobs Group (Australia) Pty Ltd (Jacobs) as the Lead Consultant for delivery of the Per- and polyfluoroalkyl substances (PFAS) Management Area Plan (PMAP) at RAAF Base Wagga Wagga, NSW (the base, Site ID 0906).

Jacobs prepared a Sampling and Analysis Quality Plan (SAQP) (Jacobs, 2025a) for the implementation of the PFAS Ongoing Monitoring Plan (OMP) (Defence, 2019a) at the base and the surrounding off-base areas (refer to Figure A-1, Appendix A).

The purpose of this OMP is to collect data that will enable Defence to maintain an up to date understanding of the distribution, and transport (migration pathways and rates) of PFAS at the base and in the monitoring area. Refer to Figure A-2, Appendix A for an outline overview of RAAF Base Wagga and the monitoring area.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP (Defence, 2019b).

1.1 Purpose & Objectives

The objectives of the ongoing monitoring plan for the base as set out in the OMP are to:

- Monitor changes in PFAS concentrations in surface water discharge to the Council stormwater network from the base as well as downstream locations along Marshalls Creek and at the confluence of Marshalls Creek and Murrumbidgee River;
- Further refine the understanding of the extent of the groundwater contamination plume around the Gumly Gumly Wetland and monitor the movement of this plume;
- Further investigate the PFAS impacts identified in the groundwater well to the east of the base (MW223);
- Monitor changes in PFAS concentrations in Kyeamba Creek;
- Monitor changes in PFAS concentrations in the Murrumbidgee River;
- Monitor changes in PFAS concentrations in sewer discharged from the base; and,
- Collect geological and hydrogeological data for the potential further development of the RAAF Base Wagga Groundwater Model.

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

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

An OMP Sampling Event Report is prepared after each sampling event. The objective of the sampling event report is to document the observations, information and data collected in accordance with the OMP during each PFAS sampling event.

A separate Ongoing Monitoring Report is prepared periodically to provide an interpretation of the data collected over multiple sampling events.

1.2 Guidelines & Legislation

This OMP has been developed with reference to the following standards and guidelines:

- Australian and New Zealand Guidelines (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- Australian Standard (2005), AS 4482-2005, Guide to the investigation and sampling of sites with potentially contaminated soils, Part 1 – Non-volatile and semi-volatile compounds (withdrawn as pending revision, referred to for 'state of knowledge').
- Department of Defence (2021a), Contamination Management Manual (DCMM), Annex L – Data Management, August 2019, Amended June 2021.
- Department of Defence (2021b), PFAS OMP Ongoing Monitoring Program Reporting Guidance, Version 0. February 2024.
- Department of Defence (2019c), Pollution Prevention Management Manual – Annex 1L: Pollution Prevention Guidance - Routine Water Quality Monitoring.
- NSW EPA (2022), Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales, January 2022.
- Heads of Environmental Protection Authority's Australia and New Zealand (HEPA) (2025), PFAS National Environmental Management Plan (NEMP) Version 3.0, 2025.
- National Environment Protection Council (NEPC) (2018) , National Environmental Protection (Assessment of Site Contamination) Measure (as amended 2013a) (ASC NEPM).
- National Health and Medical Research Council (NHMRC) (2019), Guidance on Per and Polyfluoroalkyl Substances (PFAS) in Recreational Water, August 2019.
- USEPA (2006), Guidance for the Data Quality Objectives Process (EPA QA/G-4).
- USEPA (2002), Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8).

The PMAP (Defence, 2019b) was developed and includes the overall purpose and requirements of the OMP. Additionally, to date, the following reports have been prepared under the OMP:

- Nine OMP Sampling Event Factual Reports (Cardno, 2024a, 2024b, 2023, 2022a, 2022b, 2021a, 2021b, 2020a, 2020b);
- Jacobs (2020), Ongoing Monitoring Program Groundwater Well Installation Report, December 2020;
- Jacobs (2024) MW258, MW259 and MW261 Well Installation Report, November 2024; and,
- Jacobs (Jacobs, 2025b), East Wagga Groundwater Well Installation Report, April 2025 (DRAFT).

2. Scope of Work

2.1 Scope

The OMP and SAQP include twice-annual sampling of specific groundwater monitoring wells and surface water sampling locations on base and in the monitoring area off base.

The network of on-base and off-base groundwater monitoring wells included in the OMP is presented in Table 2-1. The groundwater and surface water networks are shown in Figure A-3 and Figure A-4, Appendix A.

The groundwater wells have been installed with screened sections to target sampling of specific formations in the alluvial aquifer. These formations have been described in more detail in the Detailed Site Investigation (DSI) (Jacobs, 2018) and in the East Wagga Groundwater Well Installation Report (Jacobs, 2025b). The formation can be summarised as follows:

- The Cowra Formation is mainly comprised of silts and clays with horizons of sands and gravels. Each depositional layer is of varying and inconsistent thickness and is often laterally impersistent forming discrete lenses. This formation is present from ground surface to a depth of approximately 20 meters below ground level (mbgl).
- The Lachlan Formation comprises coarser grained sediments such as gravels and sands with lenses of clays and silts. This is the target formation for groundwater abstraction within the region. The Lachlan Formation is present between the base of the Cowra Formation and the underlying granite bedrock. Recent investigations in East Wagga (Jacobs, 2025) have identified the presence of a clay layer within the Lachlan Formation. This clay layer appears to reduce hydraulic connectivity between the more permeable horizons above and below the clay. Therefore, recent monitoring wells have been installed to target either the Upper Lachlan Formation (above the clay layer) or the Lower Lachlan Formation (below the clay layer).

The target formation for each monitoring well is included in Table 2-1 and is noted on Figure A-3, Appendix A.

Table 2-1. OMP Groundwater Monitoring Network.

On/Off-base	Area	Location ID	Aquifer	Top of Casing (mAHD)	Screening Interval (mAHD)	Total
On-base	Northwest of fire extinguisher concrete pad and former fire station (CSR_NSW_000893)	MW302	Upper Lachlan	209.61	174.6-146.8	2
		MW303	Upper Lachlan	209.57	200.6-185.57	
	Along base boundary	MW300	Upper Lachlan	200.54	170.5-145.6	11
		MW301	Cowra	200.71	192.2-183.2	
		MW304	Upper Lachlan	211.77	182.8-158.8	
		MW305	Cowra	211.77	197.8-188.8	
		MW306	Upper Lachlan	233.06	186.1-174.1	
		MW307	Cowra	232.9	224.4-203.4	
		MW308	Upper Lachlan	213.9	180.9-156.9	
		MW309	Cowra	213.83	201.8-192.8	
		MW310	Upper Lachlan	210.27	171.3-153.3	
		MW311	Cowra	210.65	202.7-190.7	

On/Off-base	Area	Location ID	Aquifer	Top of Casing (mAHD)	Screening Interval (mAHD)	Total
		MW243	Upper Lachlan	211.48	181.0-159.0	
Off-base	Gumly Gumly Wetland	MW200	Upper Lachlan	183.14	144.1-138.1	
		MW204	Upper Lachlan	184.12	150.1-141.1	
		MW233	Cowra	N/A	12.5-15.5*	5
		MW312	Upper Lachlan	182.97	162.0-124.0	
		MW313	Cowra	182.99	176.0-172.0	
	Down-gradient of Gumly Gumly Wetland	MW238	Upper Lachlan	182.88	149.9-114.9	
		MW239	Cowra	182.8	171.8-162.8	
		MW240	Cowra	182.54	170.5-156.5	
		MW244	Upper Lachlan	180.37	152.4-128.4	
		MW245	Cowra	180.84	168.8-160.8	
		MW247	Upper Lachlan	182.311	156.3-149.3	
		MW248	Cowra	182.301	172.8-159.8	
		MW249	Upper Lachlan	180.938	139.9-121.9	
		MW250	Cowra	180.967	168.0-158.0	
		MW251	Cowra	179.462	168.5-157.1	
		MW252	Upper Lachlan	179.645	149.6-119.6	
		MW253	Lower Lachlan	181.969	141.0-135.0	
		MW254	Cowra	182.04	169.0-159.0	
		MW255	Upper Lachlan	182.003	140.0-130.0	
		MW256	Cowra	182.069	171.1-159.1	28
		MW257	Cowra	182.252	171.3-166.3	
		MW258	Upper Lachlan	181.38	161.9-155.9	
		MW259	Cowra	181.48	171.5-165.5	
		MW261	Lower Lachlan	181.485	137.5-122.5	
		MW262	Cowra	181.569	169.1-159.1	
		MW263	Upper Lachlan	181.547	156.5-151.5	
		MW264	Lower Lachlan	N/A	41.3-47.3*	
		MW265	Cowra	181.946	171.9-161.4	
		MW266	Upper Lachlan	181.934	152.4-149.4	
		MW267	Lower Lachlan	181.939	142.4-132.4	
		MW268	Cowra	181.336	168.6-159.6	
		MW269	Upper Lachlan	181.307	151.8-148.8	
		MW270	Lower Lachlan	181.324	142.3-133.3	

On/Off-base	Area	Location ID	Aquifer	Top of Casing (mAHD)	Screening Interval (mAHD)	Total
	Off-base to the north and north-west of base	MW214	Upper Lachlan	186.04	142.4-133.3	
		MW231	Upper Lachlan	N/A	46.9-56.3*	
		MW235	Upper Lachlan	N/A	14.3-17.7*	
		MW246	Upper Lachlan	189.469	167.5-141.5	
	Drinking Water Supply bores to the north and north-west of base	MW209	N/A†	N/A	42.3-54.5*	9
		MW211	N/A†	N/A	N/A†	
		MW212	N/A†	N/A	N/A†	
		MW213	N/A†	N/A	N/A†	
		MW260	N/A†	N/A	N/A†	
	Property to the east of the base	MW241	Upper Lachlan	200.07	141.6-126.6	2
		MW242	Upper Lachlan	199.89	162.9-138.9	
					Total	55

Note: (*) indicates screening intervals are in mBGL. (†) indicates wells were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.

Surface water locations to be sampled on a twice-annual basis are provided in Table 2-2.

Table 2-2. Surface Water Sampling Locations.

On/Off-Base	Area	Location ID	Total
On-base	Stormwater drainage from the north-west corner of the base to the Gumly Gumly Wetland	SW104	2
		SW206	
	Outlet of stormwater drain that runs parallel to Elizabeth Ave (incl. drainage from the Forest Hill Rural Fire Service)	SW218	1
Off-base	Marshalls Creek downstream of Gumly Gumly Wetland	SW234	5
		SW262	
		SW294	
		SW310	
		SW311	
	Murrumbidgee River	SW212	4
		SW261	
		SW286	
		SW309	
	Kyeamba Creek	SW236	2
		SW240	
	Forest Hill Sewage Treatment Plant	SW228	3

On/Off-Base	Area	Location ID	Total
		SW288	
		SW289	
Total			17

2.2 Deviations from the OMP or OMP SAQP

While the scope of works and methodology completed as part of the sampling event were generally consistent with that presented in the OMP and SAQP, a number of points of deviation are noted in Table 2-3.

Table 2-3. Deviations from the OMP or SAQP.

No.	Description	Rationale	Implications of deviation
1	Property access for groundwater well MW208 (OTH206 in OMP) has not been granted.	Groundwater well MW208 was included in the OMP, however, access has not been provided and therefore, this location is not included in the SAQP and was not sampled as part of this event.	Minor negative impact – inability to access location during previous events was noted in the SAQP and was expected for the current event. The well is within the upper Lachlan formation and there are other wells targeting the same aquifer nearby (including MW255 (approx. 800m west), MW200 (approx. 950m south east) and MW238 (approx. 700m east).
2	New monitoring well (MW239) installed for the OMP on 25 November 2019.	A new monitoring well (MW239) was installed for the OMP to assess groundwater within the Cowra formation, noting MW238 is adjacent and within the Lachlan Formation. MW238 was previously included within the OMP but was originally referred to as OMP-MW3. Monitoring well MW239 has been included in the SAQP.	Positive impact. Additional data provided by the inclusion of this well will improve the spatial understanding of groundwater conditions.
3	New monitoring well installed (MW245) for the OMP on 27 February 2020.	A new monitoring well (MW245) was installed for the OMP to assess groundwater within the Cowra formation, noting MW244 is adjacent and within the Lachlan Formation. Monitoring well MW245 has been included in the SAQP.	Positive impact. Additional data provided by the inclusion of this well will improve the spatial understanding of groundwater conditions.
4	New monitoring wells (MW246 to MW257) installed for the OMP between 20 May and 18 September 2020, not included in the original OMP.	New monitoring wells MW246 to MW257 were installed for the OMP between the Gumly Gumly wetlands and Marshalls Creek to monitor PFAS concentrations in Cowra and Lachlan formations. Monitoring wells MW246 to MW257 have been included in the SAQP.	Positive impact. Additional data provided by the inclusion of this well will improve the spatial understanding of groundwater conditions.
5	New monitoring wells (MW258 and	New monitoring wells MW258 and MW259 were installed for the OMP to assess	Positive impact. Additional data provided by the inclusion of this

No.	Description	Rationale	Implications of deviation
	MW259) installed between 4 July and 5 July 2023.	groundwater conditions in the Cowra and Lachlan formations, adjacent to Marshalls Creek. Monitoring wells MW258 and MW259 have been included in the SAQP.	well will improve the spatial understanding of groundwater conditions.
6	New monitoring well (MW261) installed between 22 and 25 January 2024, not included in the original OMP.	New monitoring well MW261 was installed for the OMP to assess groundwater conditions in the lower Lachlan formation at the depth of extraction from RWCC bore MW212. The location was installed adjacent to MW258 and MW259 to investigate the potential influence of Marshalls Creek in PFAS migration	Positive impact. Additional data provided by the inclusion of this well will improve the spatial understanding of groundwater conditions.
7	Sampling location MW210 has been decommissioned. As of February 2024, an alternative sampling location (MW260) was identified and sampled in the October 2023 (E8) event (Cardno, 2024a).	MW210 was a drinking water supply bore that has been decommissioned by the Gumly Gumly Private Irrigation District (GGPID). MW260 is included in the SAQP and located approx. 20 m south of previous location MW210.	No impact. This sampling location is to monitor the drinking water being used by GGPID. The replacement sampling location covers a data gap created by GGPID decommissioning MW210.
8	New monitoring wells (MW262 to MW270) installed between 27 September and 11 October 2024, not included in the original OMP.	Three sets of three nested monitoring wells were installed in East Wagga. The three nested wells targeted the Cowra, Upper Lachlan and Lower Lachlan formations. The sites of the nested wells were selected to fill in gaps between the existing groundwater network and improve understanding of the lateral PFAS extents. MW262 to MW264 are mid-way between MW258 cluster and the MW212 drinking water extraction bore (which are approx. 650m apart). MW265 to MW267 and MW268 to MW270 are located along Copland St between the existing clusters at MW258 and MW253 (which are approx. 1.6 km apart)	Positive impact. Additional data provided by the inclusion of this well will improve the spatial understanding of groundwater conditions
9	New monitoring well installed (MW245) for the OMP on 27 February 2020.	A new monitoring well (MW245) was installed for the OMP to assess groundwater within the Cowra formation, noting MW244 is adjacent and within the Lachlan Formation. Monitoring well MW245 has been included in the SAQP.	Positive impact. Additional data provided by the inclusion of this well will improve the spatial understanding of groundwater conditions

No.	Description	Rationale	Implications of deviation
10	Sampling at MW235 was collected from the wrong location	Two potable water supply taps were incorrectly sampled (at the time thought to be connected to groundwater pumped from MW235). Sampling for MW235 should have been collected from a different tap, which cannot be sampled until the pump connected to MW235 is repaired.	Minor negative impact - Location has previously been sampled from potable water taps, rather than the groundwater at the site. The groundwater bore is no longer being used and therefore groundwater use is unlikely to pose a risk.
11	Trip blank and rinsate blank samples from batch EM2506606 were analysed for a reduced suite of PFAS instead of the full suite as stipulated in the SAQP.	Field error. Trip blanks and rinsate blanks incorrectly requested for reduced suite PFAS on one batch of samples.	Minor impact - A reduced PFAS suite has previously been used for field and trip blank samples. The use of this suite was based on Jacobs' understanding of the PFAS analytes encountered at the site (i.e., typically PFOS and PFHxS are the most common and highest concentrations). Additionally, all PFAS analytes with relevant assessment criteria are included in the reduced PFAS suite for comparison with primary sample data. This deviation is not considered to impact data quality.
12	MW204 deployment depth above screened interval	A bore log is not available for the monitoring well, but it had previously been listed that the screened interval was between 34-43mbgl. During gauging a blockage was noted at 18.1m and Hydrasleeve was deployed at 15.5m consistent with previous deployment depth from Stantec (13.9m).	Moderate negative impact – the sample may not be capturing a representative sample from the target aquifer, and may instead be representative of stagnant water within the casing. An attempt should be made to dislodge the blockage and redeploy at the correct depth.

3. Methodology

3.1 Groundwater Sampling Methodology

The methodology used for this groundwater sampling event was in accordance with the SAQP (Jacobs, 2025a) and is summarised in Table 3-1.

Table 3-1. Groundwater Sampling Methodology.

Activity	Details
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples. Measurements of depth to groundwater were undertaken using an interface probe, which was serviced by the supplier prior to use. All wells were measured against a specified, previously surveyed mark at the top of the well casing.
Groundwater sample collection	Groundwater samples were collected from monitoring wells using no-purge methodology with HydraSleeves™, which were installed within the screened interval (approximate mid-point) of the wells. Once sampling was completed, a new HydraSleeve™ was deployed at the screened interval depth at each location in preparation for the next scheduled sampling round, where practicable.
Sample collection from fully encased wells	Some off-base wells are fully encased and do not allow direct access to deploy a HydraSleeve™ or bailer. These wells include MW200, MW209, MW211, MW212, MW213, MW214, MW231, MW233, MW235 and MW260. Water from these wells is extracted by mechanically powered pumps and sample collection is completed from a designated tap or outlet. Prior to sampling, the pump is allowed to run for at least one minute to purge stagnant water within the well and associated piping. Groundwater field parameters were recorded with a water quality meter.
Field Parameters	Weather conditions, and visual or olfactory conditions at the location, coordinates and means of access, and any changes from previous access to a specific location were recorded. Field water quality parameters potential of hydrogen (pH), electrical conductivity (EC), dissolved oxygen (DO), oxidation/reduction potential (ORP) and temperature were recorded.
Sample identification, preservation and holding times	Each sample was labelled with the sample location, date, project identification number and sampler's initials. Sample labelling and naming was in accordance with Annex L of the DCMM (Defence, 2021a). Samples were collected directly into appropriately preserved laboratory supplied bottles (Teflon-free) and packed in chilled containers for delivery to the laboratory under COC documentation. Sample containers, preservation procedures, sample storage requirements and holding times were implemented in accordance with the requirements set out in Australian Standard AS/NZS 5567.1:1998 and AS 4482.1.
QA/QC samples to be collected	A Quality Assurance and Quality Control (QA/QC) program was implemented for the sampling and analysis program to assess the representativeness and reliability of the data obtained. Accordingly, the following sample types were obtained during the sampling program:

Activity	Details
	▪ Intra-laboratory duplicates collected at a rate of 1 per 10 water samples or 1 per batch if the batch was less than 10 samples. ▪ Inter-laboratory duplicates collected at a rate of 1 per 10 water samples sent to a secondary laboratory. ▪ Rinsate blanks collected at a frequency of 1 per day collected off re-used sampling equipment, e.g. interface probe. ▪ Trip blank samples of 1 per shipment to be included in the chilled sample containers upon transport to the laboratory. ▪ All QC samples were tested for a full PFAS analytical suite as pre the SAQP (Jacobs, 2025a). Jacobs personnel attempted to reduce potential heterogeneity in the sample media matrix by dividing the sample collected between primary and intra-laboratory jars or bottles during sampling. The data validation assessment is presented in Appendix C.
Sample analysis	All primary and QC samples were submitted for analysis using the standard Defence PFAS analytical suite as per the SAQP (Jacobs, 2025a). Low-level LOR was requested for all samples. The LOR for each compound is presented in the summary tables in Appendix B.
Retrieval of data from loggers	Data loggers for monitoring of water levels and a barometric pressure logger for measuring barometric pressure changes to allow for relative compensation of the water levels were installed in the following 13 groundwater wells: <u>5th May 2020</u> On-Base Lachlan Formation wells: ▪ MW243 (northern boundary of base) ▪ MW304 (western boundary of base) Off-Base Lachlan Formation wells: ▪ MW215 (adjacent to base irrigation bore MW214 to the north of the base) ▪ MW242 (between base and Kyeamba Creek; possible flow in this direction) ▪ MW312 (hydraulically down-gradient of base and located on margin of wetland) ▪ MW238 (between base and Murrumbidgee River; down-gradient of base and wetland) ▪ MW244 (close to Murrumbidgee River and town supply bores; down-gradient of base and wetland) Off-Base Cowra Formation wells: ▪ MW239 (paired with MW238) ▪ MW245 (paired with MW244) ▪ Dataloggers are also to be installed in the newly constructed East Wagga groundwater wells (MW262 to MW270) <u>19th March 2021</u> Off-Base Lachlan Formation wells: ▪ MW247 (next to Marshalls Creek; down-gradient of base and wetland) ▪ MW249 (sentinel well for RWCC1 East Wagga borefield; down-gradient of base and wetland) Off-Base Cowra Formation wells: ▪ MW248 (paired with MW247) ▪ MW250 (paired with MW249)

Activity	Details
	Data loggers were left in the wells as specified in the OMP (Defence, 2019a), Well Installation Report (Jacobs, 2020) and the East Wagga Groundwater Installation Report (Jacobs, 2025b). Data logger data was downloaded from each of the respective wells during groundwater monitoring events. The data was used to gain further hydrogeological understanding of the base and to inform future management actions including the potential refinement of the RAAF Base Wagga groundwater model.
Decontamination	Used HydraSleeves™ were replaced with a new HydraSleeve™ after sample collection at each location, thus removing the need for decontamination. All re-usable sampling equipment (such as the interface probe) was thoroughly washed using 'PFAS free' and phosphate-free detergent (Liquinox®), then double rinsed with de-ionised water before the sample collection. Clean, disposable nitrile gloves were worn and replaced between each sample.
Laboratory Analytical Method Accreditation	All groundwater analysis was implemented by the following laboratories employing National Association of Testing Authorities, Australia (NATA) accredited analytical methods: ▪ Primary analysis was undertaken by ALS Global Laboratories. ▪ Secondary analysis was undertaken by Eurofins.

3.2 Surface Water Sampling Methodology

The methodology used for this surface water sampling event was in accordance with the SAQP (Jacobs, 2025a) and is summarised in Table 3-2.

Table 3-2. Surface Water Sampling Methodology.

Item	Description
Surface water sample collection methodology	Where possible, surface water samples were collected directly into laboratory supplied sample containers using a 'Grab' (manual) sample method via a long-handled sampling device. The sample container was secured to the end of the sampling device and was then lowered into the water, oriented with the capped opening facing downwards to avoid the collection of surface films. Where depth permitted, the sample container was positioned at least 20 cm below the surface water level and above the sediment bed before reorienting the sample container so that the capped opening was facing upwards, allowing it to fill. This approach is consistent with the Australian Water Quality Guidelines, which advises to '*immerse a sample bottle by hand to just below the surface (typically 0.25 to 0.50 m depth) and hold the sampler downstream of where the sample is to be collected*'. The description of each sampling location was recorded.
Field records	Weather conditions, and visual or olfactory conditions at the location, coordinates and means of access, and any changes from previous access to a specific location were recorded. Field water quality parameters pH, EC, DO, ORP and temperature were recorded.
Sample identification, preservation and holding times	Each sample was labelled with the sample location, date, project identification number and sampler's initials. Sample labelling and naming was in accordance with Annex L of the DCMM (Defence, 2021a).

Item	Description
	Samples were contained in appropriately preserved laboratory supplied bottles (Teflon-free) and packed in chilled containers for delivery to the laboratory under COC documentation. Sample containers, preservation procedures, sample storage requirements and holding times complied with the requirements set out in "Australian Standard AS/NZS 5567.1:1998 and AS 4482.1".
QA/QC Samples to be Collected	Surface water QC samples were collected at the following frequencies: ▪ Field duplicate (intra-laboratory) samples at 1 per 10 water samples or 1 per batch if the batch was less than 10 samples. ▪ Field triplicate (inter-laboratory) samples at 1 per 10 water samples should be sent to a secondary laboratory. ▪ Rinsate blank sample at 1 per day (collected off re-used sampling equipment). ▪ Trip blank samples of 1 per shipment to be included in the chilled sample containers upon transport to the laboratory. ▪ All QC samples were tested for a standard PFAS analytical suite as per the SAQP (Jacobs, 2025a). Jacobs personnel 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.
Decontamination	All re-usable sampling equipment (such as the long-handled sampling device) were thoroughly washed using phosphate-free detergent (Liquinox®), then double rinsed with de-ionised water before the sample collection.
Sample Analysis	All surface water samples were analysed for the full PFAS analytical suite as per the SAQP (Jacobs, 2025a). Low-level LOR was requested for samples collected from the Murrumbidgee River. Standard LOR was requested for all other samples. The LOR for each compound is presented in the summary tables in Appendix B.
Laboratory Analytical Method Accreditation	All surface water analysis was implemented by the following laboratories employing NATA accredited analytical methods: ▪ Primary analysis was undertaken by ALS Global Laboratories. ▪ Secondary analysis was undertaken by Eurofins.

4. Assessment Criteria

Guidance documents used to assess the dataset include the following:

- Heads of EPAs Australia and New Zealand (HEPA, 2025). *PFAS National Environmental Management Plan 3.0*. 2025.
- Department of Health, (2017). *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017.
- Food Standards Australia New Zealand (FSANZ, 2017). *Supporting Document 1: Hazard assessment report – Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA), Perfluorohexane Sulfonate (PFHxS).*
- National Health and Medical Research Council (NHMRC, 2019). *Guidance on PFAS in Recreational Water*. August 2019.
- National Health and Medical Research Council (NHMRC, 2025). National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, version 4. June 2025.
- National Environment Protection Council (NEPC), 2013. *Schedule B1. National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013b) *Schedule B1 Guideline on Investigation Levels for Soil and Groundwater.*
- The PFAS NEMP states that the guidelines do not account for effects which result from the biomagnification of toxicants in air-breathing animals or in animals which prey on aquatic organisms. For chemicals with the potential to bioaccumulate (such as PFAS), the ANZECC Guidelines recommend the use of a higher level of species protection. However, the guideline values for PFOS and PFOR for 99% species protection presented in the PFAS NEMP are ultra-trace levels presenting significant challenges for sampling and analysis. Therefore, screening of surface water data against the 95% species protection values was proposed for the OMP.

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in Table 4-1.

Table 4-1. Summary of Adopted Screening Criteria: Water.

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water	PFOS	0.008 µg/L	These values are from Table 10.6 of the National Health and Medical Research Council's (NHMRC) Australian Drinking Water Guidelines 6 2011 (ADWG) (version 4 updated June 2025). The method used to derive the drinking water values is outlined within Chapter 6 of the ADWG. The criteria are based upon a 70kg adult consuming 2L of water per day, and that volume of water accounts for 10% of tolerable daily intake. The criteria also apply an uncertainty factor to account for human variability and the uncertainty of extrapolating from studies on animals to humans. All surface water and groundwater results were compared to these criteria.
	PFHxS	0.03 µg/L	
	PFOA	0.2 µg/L	
	PFBS	1 µg/L	
Recreational use	PFOS + PFHxS	2 µg/L	In August 2019, NHMRC released guidance on the assessment of PFAS in surface water. Rather than adopting an ingestion rate of 0.2 L of water per day (as per the ADWG formula), NHMRC adjusted this rate with consideration of an event frequency (150 events/year) to calculate an annual ingestion rate of 30 L per year. These values were adopted by the PFAS NEMP 3.0 (HEPA, 2025).
	PFOA	10 µg/L	

Pathway	Compound	Criteria	Comment/Reference
			All surface water and groundwater results were compared to these criteria.
Ecological Receptors			
Freshwater	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2025) and endorse the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. The 95% species protection level (for freshwater and interim marine) has been applied for slightly to moderately disturbed systems. All groundwater and surface water results were compared to these criteria.
	PFOA	220 µg/L	

5. Quality Assurance and Quality Control

5.1 Assessment of Data Quality

The SAQP set out data quality objectives for the OMP as well as a process for assessing the quality of data collected. Data quality was assessed in accordance with the PARCCS parameters (Precision, Accuracy, Representation, Completeness, Comparability and Sensitivity) principles and indicators.

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

The SAQP established Data Quality Indicators (DQI) relating to both field and laboratory procedures as well as acceptance criteria for the DQI's. The acceptance criteria for DQIs for samples are provided in Table 5-1.

Table 5-1. Data Quality Indicators.

Data quality indicator	Field	Laboratory method and results
Precision	▪ Compliance with Jacobs Work Instructions ▪ Investigation by suitably qualified and experienced personnel. ▪ Collection of blind replicate and split samples.	▪ Use of laboratories employing NATA accredited analytical methods. ▪ Analysis of inter- and intra-laboratory duplicate samples (1 in 10 primary). ▪ Laboratory internal duplicate samples.
Accuracy	▪ Compliance with Jacobs Work Instructions. ▪ Investigation by suitably qualified and experienced personnel. ▪ Collection of rinsate samples and trip blanks.	▪ Analysis of method blanks, matrix spike recoveries, surrogate spikes recoveries, laboratory control spike recoveries. ▪ Compliance with sample holding times.
Representativeness	▪ Compliance with Jacobs Work Instructions.	▪ Analysis of contaminants of potential concern.
Comparability	▪ Compliance with Jacobs Work Instructions.	▪ Use of laboratories employing NATA accredited analytical methods Analysis of split sample (1 in 10 primary). ▪ Comparison of data against historic data where available.
Completeness	▪ All critical locations sampled (spatially and temporally).	▪ All critical samples analysed. ▪ Assessment of the impact of any spatial gaps in samples collected.
Sensitivity	▪ Personnel to ensure correct analytical methods are selected.	▪ Assessment of the impact any spatial gaps in samples collected. ▪ Analytical methods to achieve the stated limits of detection.

5.2 Data Acceptance Criteria

Quality control parameters were assessed against the Data Acceptance Criteria presented in Table 5-2. Where data was found to fall outside the data acceptance criteria, an investigation was performed to determine if the data is acceptable or if corrective actions need to be instigated. Further details are presented in Appendix C.

Table 5-2. Data Acceptance Criteria.

Element	Data quality indicator	Objectives	Acceptance Criteria	Assessment findings
Field QA/QC				
Field duplicate and split samples	Precision Comparability	▪ To ensure the primary data is reliable and fit for purpose. ▪ The assessment of blind replicate and split samples is undertaken by calculating the Relative Percent Difference (RPD) of the replicate or split concentration compared with the original sample concentration. The RPD is defined as: $RPD = 100 \times \frac{[x1 - x2]}{Average}$ Where: $x1$and $x2$ are the concentration of the original and replicate or split samples.	▪ Collection and analysis at rate of 1 field duplicate and 1 split sample per 10 primary samples ▪ Analysed for the same chemicals as the primary sample. ▪ A RPD ≤ 30% will be considered acceptable. Higher RPDs may be acceptable where concentrations are less than 10 times the LOR. This is in line with the general guidance (Queensland Government, 2018). ▪ Particulates or suspended solids in the water samples can affect analytical results. Field observations and turbidity measurements will also be considered in evaluating the data.	Field duplicates: 7x sets collected, 8x RPD exceedances. Analysis frequency of 1 in 9 complies with Defence acceptance criteria (DAC). Split duplicates: 5x sets collected, 1x exceedance. Analysis frequency of 1 in 13 (due to two duplicates lost in transit) does not comply with DAC. While it is noted the DAC was not met on the split duplicates the PFAS NEMP 3.0 recommends a frequency of 1 in 20 triplicate samples. As this investigation did still meet the NEMP 3.0 requirements, the results of the investigation are still considered to be acceptable.
Trip blanks and rinsate samples	Precision Accuracy Comparability	▪ Ensure that cross-contamination has not occurred from sampling equipment, sampling procedure, or during storage and transport of samples. ▪ Each trip blank and rinsate sample is analysed as per the original samples.	▪ Collection of one trip blank per shipment and one rinsate blank per day where reusable equipment was used. ▪ Each trip blank and rinsate sample is analysed for the full PFAS analytical suite	Trip blanks: 2x trip blank samples accompanied two physical batches submitted to the laboratory. No results above the LOR. One trip blank sample analysed for reduced PFAS suite instead of full PFAS suite. This is

Element	Data quality indicator	Objectives	Acceptance Criteria	Assessment findings
			as per the SAQP (Jacobs, 2025a). ▪ Analytical result < LOR.	not considered to cause a material impact on data quality. Rinsate samples: 9x samples collected in total across all days where re-useable equipment was decontaminated which complies with DAC. One rinsate blank reported two analytes above the LOR. Four rinsate samples analysed for reduced PFAS suite instead of full PFAS suite. This is not considered to cause a material impact on data quality.
Review of Analytical method	Comparability Sensitivity	▪ The analytical methods and limits of recovery must be confirmed to be appropriate for media and adopted Site assessment criteria.	▪ Laboratory LOR ≤ site assessment criteria.	All results were reported at LOR below the site assessment criteria.
Laboratory QA/QC				
Sample Holding Times	Precision Accuracy	▪ Period between sample collection, extraction and analysis as reported by the laboratory.	▪ For water samples, the samples are to be extracted within 14 days of sample collection and analysed within 28 days of extraction.	All samples were extracted and analysed within the accepted criteria.
Laboratory duplicates	Precision	▪ To ensure precision of the analysis method and replicability of analysis due to potential sample heterogeneity. ▪ Assessment as per blind replicates and split samples.	▪ As specified in the laboratory QC report.	Reduced frequency of laboratory duplicates using the standard EP231X method; however appropriate amount of laboratory duplicates using same method for low level detection limits.

Element	Data quality indicator	Objectives	Acceptance Criteria	Assessment findings
Matrix spike recoveries	Accuracy	▪ To assess the effect of the matrix on the accuracy of the analytical method used. ▪ Assessment is undertaken by determining the percent recovery of the known spike or addition to the sample. $\%\ Recovery = 100 \times \frac{C - A}{B}$ Where: A = Concentration of analyte determined in the original sample B = Added concentration C = Calculated concentration	▪ As specified in the laboratory QC report.	Reduced frequency of matrix spikes using the standard EP231X method; however appropriate amount of matrix spikes using same method for low level detection limits.
Method blanks	Accuracy	▪ To determine background contamination or interferences in the analytical process.	▪ Analytical result < LOR.	No method blank outliers were reported.

Note: LOR = Laboratory Level of Reporting (LOR) or the minimum detection limit for a particular analyte.

5.3 Summary of the QA/QC assessment

The QA/QC assessment presented in Table 5-2 and detailed in Appendix C identified that the data quality indicators were satisfied with some minor exceptions. These exceptions, as discussed in Appendix C and in Table 5-2 above, are not considered to materially impact the suitability of the data for further interpretation and management actions.

All results that are presented within the report (50 groundwater results and 17 surface water results) are considered appropriate and representative of the sample locations except for MW204. As discussed in Section 2.2, it appears that there was a blockage in the well and MW204 was sampled above the screened interval. The depth of sampling is noted to be consistent with the previous rounds of sampling at MW204. The results have been presented in this report as they were measured. The uncertainty in this data will be considered as part of the Ongoing Monitoring Report. The overall quality of the analytical data produced is acceptably reliable (accounting for 1 sample with questionable reliability, 64 of the 65 groundwater and surface water samples collected were suitable for use and DQIs passed acceptance criteria – 98% data suitable for use) for the purpose of the report.

6. Field Observations and Results

6.1 General Observations

The weather conditions and general observations (including activities that may impact the monitoring program) recorded during the February 2025 sampling event are summarised in Table 6-1.

Table 6-1. General Observations.

Items	Observations
Weather Conditions	Warm, mostly sunny to overcast on most days. Light rain and thunderstorms on 5 February 2025, however Bureau of Meteorology station no. 072150 reported 0 mm of rainfall (BoM, 2025)
Estate Management Works, Training Activities and/or Construction Works.	None observed.

6.2 Field Observations and Measurements

Field observations and measurements were collated. A summary of the groundwater and surface water data from the February 2025 sampling event and previous events for comparison, are presented in Table 6-2 and Table 6-3, respectively. Refer to Appendix D for field records and Table D-1 for comments on surface water flow conditions, five monitoring wells were dry and a sample could not be collected, no surface water locations were found to be dry and all could be sampled. Inferred groundwater contours for each formation are shown in Figure A-5 to Figure A-7, Appendix A.

Table 6-2. Groundwater Field Observations and Measurements.

Parameter		Recent (Feb 2025)	Previous (Jun 2016 to Apr 2024)
No. of Observations		52	349
Temp. Range and Average (°C)		18.2 to 26.6 (22.06)	11.5 to 29.5 (18.81)
pH Range and Average (S.U.)		5.61 to 10.66 (6.75)	5.12 to 11.92 (6.87)
ORP Range and Average (Eh)		-4.7 to 612.8 (234)	-323.5 to 1,323 (261)
EC Range and Average (µS/cm)		139.4 to 5,138 (959)	0.171 to 4,665 (796)
DO Range and Average (mg/L)		0.63 to 6.29 (2.69)	0 to 26.8 (2.69)
Depth to water Range (mAHD)	Cowra	202.41 to 167.09	202.42 to 155.49
	Upper/ Lower Lachlan	188.78 to 166.81	194.13 to 147.02
Inferred groundwater flow direction	Cowra	North-West on- and off-base, north closer to Murrumbidgee	North to North-West
	Upper Lachlan		
	Lower Lachlan	North to North-West	

Note: Excluding potentially erroneous data from MW214 for temperature (40.8 °C and 38.1 °C) on 18/01/2018 and 5/02/2025, MW235 for EC (0.091 µS/cm) on 1/05/2022, MW249 for EC (0.001 µS/cm) on 30/04/2022, MW306 for pH (0.73 pH units) on 14/04/2023, MW302 for EC (0.002 µS/cm) on 1/05/2022.

Table 6-3. Surface Water Field Observations and Measurements.

Parameter	Recent (Feb 2025)	Previous (Jun 2016 to Apr 2024)
No. of Observations	11	149

Parameter	Recent (Feb 2025)	Previous (Jun 2016 to Apr 2024)
Temp. Range and Average (°C)	23.1 to 29.3 (25.24)	10.2 to 25.8 (17.8)
pH Range and Average (S.U.)	6.92 to 8.01 (7.35)	5.26 to 11.55 (7.85)
ORP Range and Average (Eh)	96.1 to 322 (239)	-2.1 to 399.6 (268)
EC Range and Average (µS/cm)	107.9 to 691 (315)	0.125 to 3,990 (381)
DO Range and Average (mg/L)	0 to 6.97 (5.03)	0.05 to 30.7 (5.64)

Note: Excluding potentially erroneous data from SW236 for DO (44.2 mg/L) on 2/10/2020, SW261 for EC (0.092 µS/cm) SW286 for EC (0.061 µS/cm) on 17/05/2022, for DO (68 mg/L) on 2/10/2020.

6.3 Summary of Analytical Results

6.3.1 Groundwater Analytical Results

Analytical groundwater results of the primary data set (including duplicates) were compared with the assessment criteria presented in Section 4. A summary of the data from the February 2025 sampling event and previous events for comparison, is presented in Table 6-4. Mann-Kendall trend analysis was completed to identify increasing or decreasing monatomic trends (or no trends) based available data from each location. A summary of the results that met the OMP triggers is presented in Table 6-5. Refer to 0 for summary tables of results, Appendix E for details of the Mann-Kendall trend analysis and Appendix F for laboratory certificates. The distribution of PFAS concentrations per formation are shown in Figure A-8 to Figure A-19, Appendix A.

Table 6-4. Exceedances of Tier 1 Screening Criteria in Groundwater.

Analyte	Range of Results (µg/L)	Detection Frequency (Locations)	Lowest Criteria (µg/L)	# Exceedances (Locations)	Maximum Location ID	Date
Recent (Feb 2025)						
Cowra Formation (including encased Cowra well)						
PFOA	<0.002 - 0.19	9 / 15	0.2	0	MW254	06/02/25
PFOS	<0.002 – 0.221	10 / 15	0.008	8	MW233	04/02/25
PFHxS	<0.002 - 1.18	12 / 15	0.03	8	MW262	05/02/25
Upper Lachlan Formation						
PFOA	<0.002 - 0.004	3 / 20	0.2	0	MW263	05/02/25
PFOS	<0.002 – 0.015	7 / 20	0.008	4	MW269	06/02/25
PFHxS	<0.002 – 0.016	7 / 20	0.03	5	MW263	05/02/25
Lower Lachlan Formation (including encased Lachlan wells and Granite formation wells)						
PFOA	<0.002 - 0.029	3 / 15	0.2	0	MW200	04/02/25
PFOS	<0.002 – 0.294	5 / 15	0.008	3	MW200	04/02/25
PFHxS	<0.002 – 1.00	7 / 15	0.03	2	MW200	04/02/25

Analyte	Range of Results (µg/L)	Detection Frequency (Locations)	Lowest Criteria (µg/L)	# Exceedances (Locations)	Maximum Location ID	Date
Previous (June 2016 to November 2024)						
Cowra Formation (including encased Cowra well)						
PFOA	<0.002 - 0.25	34 / 130	0.2	0	MW254	30/04/25
PFOS	<0.002 – 0.32	64 / 130	0.008	33	MW254	16/08/25
PFHxS	<0.002 – 0.71	93 / 130	0.03	33	MW262	03/10/25
Upper Lachlan Formation						
PFOA	<0.002 - 0.02	6 / 197	0.2	0	MW255	03/07/20
PFOS	<0.002 – 0.06	38 / 197	0.008	35	MW269	07/11/24
PFHxS	<0.002 – 0.237	45 / 197	0.03	28	MW263	07/11/24
Lower Lachlan Formation (including encased Lachlan wells and Granite formation wells)						
PFOA	<0.002 - 0.08	17 / 137	0.2	0	MW200	07/07/17
PFOS	<0.002 – 1.36	27 / 137	0.008	11	MW200	07/07/17
PFHxS	<0.002 - 2	35 / 137	0.03	11	MW200	07/07/17

Table 6-5. Activation of OMP Triggers in Groundwater.

Analyte	First-time Result > LOR	First-time Exceedance of Adopted Criteria	Increasing/ Decreasing Trend
PFOA	MW233, MW244, MW250, MW256, MW263, MW265, MW269, MW300	None	Increasing: MW253 (Lower Lachlan), MW254 (Cowra) Decreasing: MW200 (Upper Lachlan)
PFOS	MW214, MW306	None	Increasing: MW253 (Lower Lachlan), MW254 (Cowra), MW259 (Cowra) MW300 (Upper Lachlan) Decreasing: MW200 (Upper Lachlan), MW204 (Upper Lachlan), MW312 (Upper Lachlan)
PFHxS	MW214	None	Increasing: MW248 (Cowra), MW300 (Upper Lachlan) Decreasing: MW200 (Upper Lachlan), MW204 (Upper Lachlan), MW240 (Cowra), MW245 (Cowra), MW312 (Upper Lachlan)

Note: No Trend, Increasing, Decreasing Trends indicated by Mann-Kendall analysis (Appendix E).

6.3.2 Surface Water Analytical Results

Analytical surface water results of the primary data set (including duplicates) were compared with the assessment criteria presented in Section 4. A summary of the data from the February 2025 sampling event and previous events for comparison, is presented in Table 6-6. Mann-Kendall trend analysis was completed to identify increasing or decreasing monatomic trends (or no trends) based available data from each location. A summary of the results that met the OMP triggers is presented in Table 6-7. Refer to 0 for summary tables of results, Appendix E for details of the Mann-Kendall trend analysis and Appendix F for laboratory certificates. The distribution of PFAS concentrations is shown in Figure A-20 to Figure A-23 , Appendix A.

Table 6-6. Exceedances of Tier 1 Screening Criteria in Surface Water.

Analyte	Range of Results (µg/L)	Detection Frequency (Locations)	Lowest Criteria (µg/L)	# Exceedances (Locations)	Maximum Location ID	Date
Recent (Feb 2025)						
PFOA	<0.002 - 0.02	3 / 17	0.2	0	SW104	27/02/25
PFOS	<0.002 – 0.67	5 / 17	0.008	4	SW289	26/02/25
PFHxS	<0.002 - 0.61	4 / 17	0.03	4	SW104	27/02/25
Previous (May 2012 to Sep 2024)						
PFOA	<0.002 - 0.17	86 / 284	0.2	0	SW104	29/09/20
PFOS	<0.002 – 3.34	170 / 284	0.008	170	SW104	05/11/22
PFHxS	<0.002 - 1.81	154 / 284	0.03	124	SW104	29/09/20

Table 6-7. Activation of OMP Triggers in Surface Water.

Analyte	First-time Result > LOR	First-time Exceedance of Adopted Criteria	Increasing/ Decreasing Trend
PFOA	None	None	Increasing: None Decreasing: SW228 (Forest Hill STP), SW234, SW310 (Marshalls Creek)
PFOS	None	None	Increasing: None Decreasing: None
PFHxS	None	None	Increasing: None Decreasing: SW228 (Forest Hill STP), SW234 (Marshalls Creek)

Note: No Trend, Increasing, Decreasing Trends indicated by Mann-Kendall analysis (Appendix E).

6.4 Discussion of Results

In relation to PFOA, although increasing trends were identified in MW253 (Lower Lachlan Formation in East Wagga) and MW254 (Cowra Formation in East Wagga), maximum concentrations across all groundwater and surface water sampling locations were well below the assessment criteria and were below LOR at 35 of the 50 groundwater sampling locations and 14 of 17 surface water sampling locations. All of the first-time detections above the LOR reported were either new wells included in the sampling for the first time or the use of low-level LOR for the first time.

In relation to PFOS, first time detections above the LOR were reported for MW244 and MW306. Location MW244 is screened in the Upper Lachlan formation and is located in East Wagga. The PFOS concentration was 0.003 µg/L, just above the low-level LOR, which was used for the first time this sampling event. No other PFAS were detected within the sample. Location MW306 is also screened in the Upper Lachlan formation and is located on the southern base boundary. This location was installed to assess PFAS concentrations upgradient of the base (background). The PFOS concentration in this sample was 0.002 µg/L, equal to the low-level LOR which was used for the first time in this sampling event. It is noted that other PFAS were reported above the LOR with the total PFAS concentration in MW306 was reported to be 0.022 µg/L.

Increasing trends for PFOS were identified at MW253 (Lower Lachlan formation in East Wagga), MW254, MW259 (Cowra formation, both in East Wagga) and MW300 (Upper Lachlan formation, located on the base boundary near the main stormwater and sewer discharge point); and increasing trends were also observed for PFOA in MW253 and MW254. Figure 6-1 presents the PFOS and PFOA time series for these locations. The increasing trends for PFOS for all four locations appears to be due to previous increasing trends that peaked in either 2023 or 2024. The PFOA results in MW254 do appear to be increasing, but are still below the historical maximum (in 2022).

First time detections of PFHxS above the LOR were only reported for MW214. MW214 is the Lachlan Formation bore located to the north of the base which is used to supply irrigation water to the base. PFHxS was the only PFAS detected in the MW214 sample above LOR with a concentration of 0.004 µg/L (below the historical LOR).

Increasing trends for PFHxS were observed in MW248 (Cowra formation adjacent Marshalls Creek) and MW300 (Upper Lachlan formation, located on the base boundary near the main stormwater and sewer discharge point). Figure 6-2 presents the PFHxS time series for these locations. The increase at MW248 represents a 0.04µg/L increase from the previous maximum, but it is noted that all results from MW248 exceed the new NHMRC drinking water guideline values for PFHxS. The increasing PFHxS trend for MW300 appears to be due to previous increasing trends that peaked in either 2023 or early 2024.

There were no exceedances of the adopted assessment criteria for PFBS in either groundwater or surface water locations.

No triggers were identified for the surface water data, which was generally consistent with data from previous sampling events. Decreasing trends were found for surface water locations in Marshalls Creek and at Forest Hill STP, indicating that higher PFAS uptake in aquatic biota in Murrumbidgee River is unlikely.

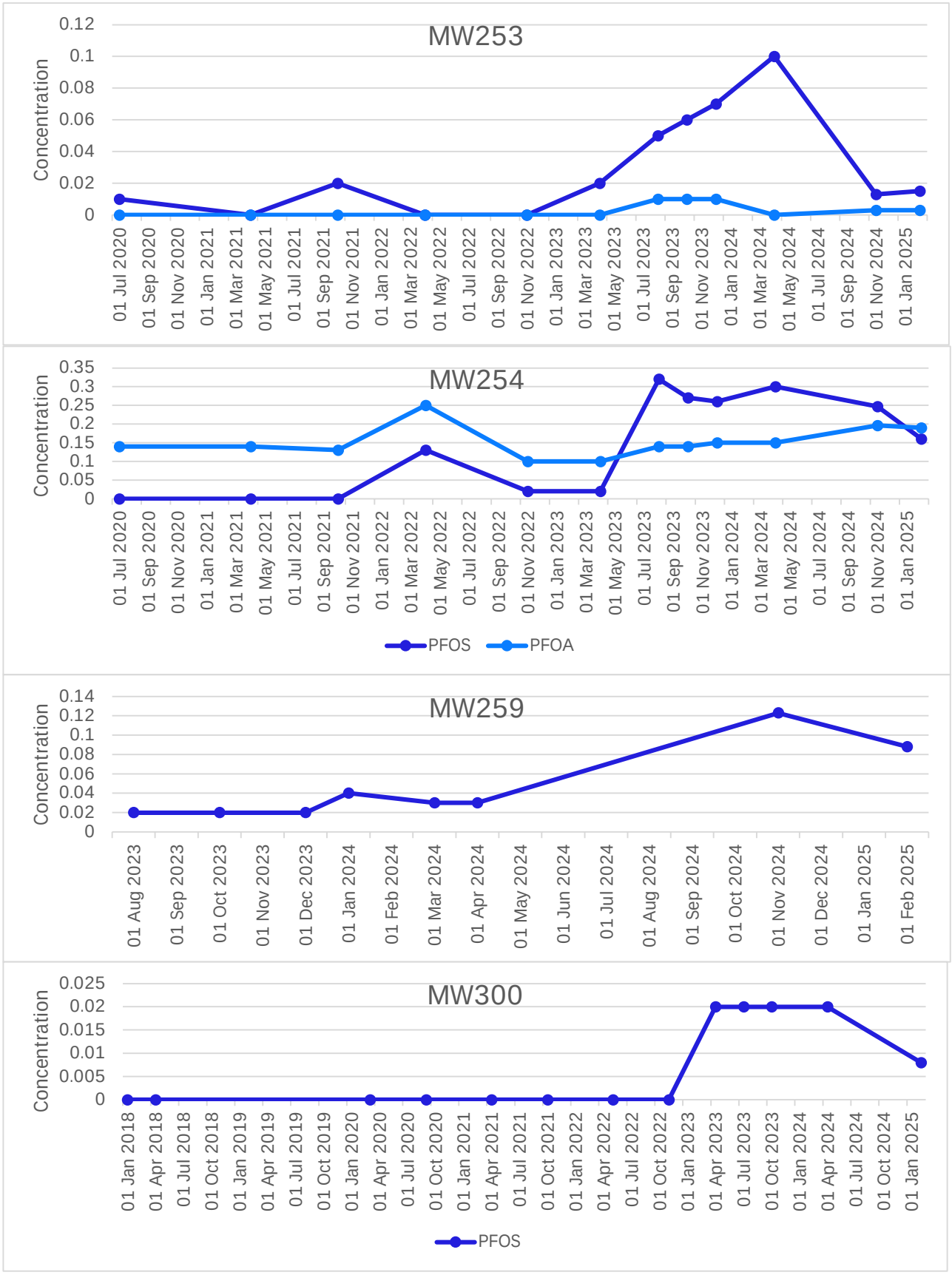

Figure 6-1. Time-series plots of PFOS for MW253, MW254, MW259 and MW300; and PFOA for MW253 and MW254.

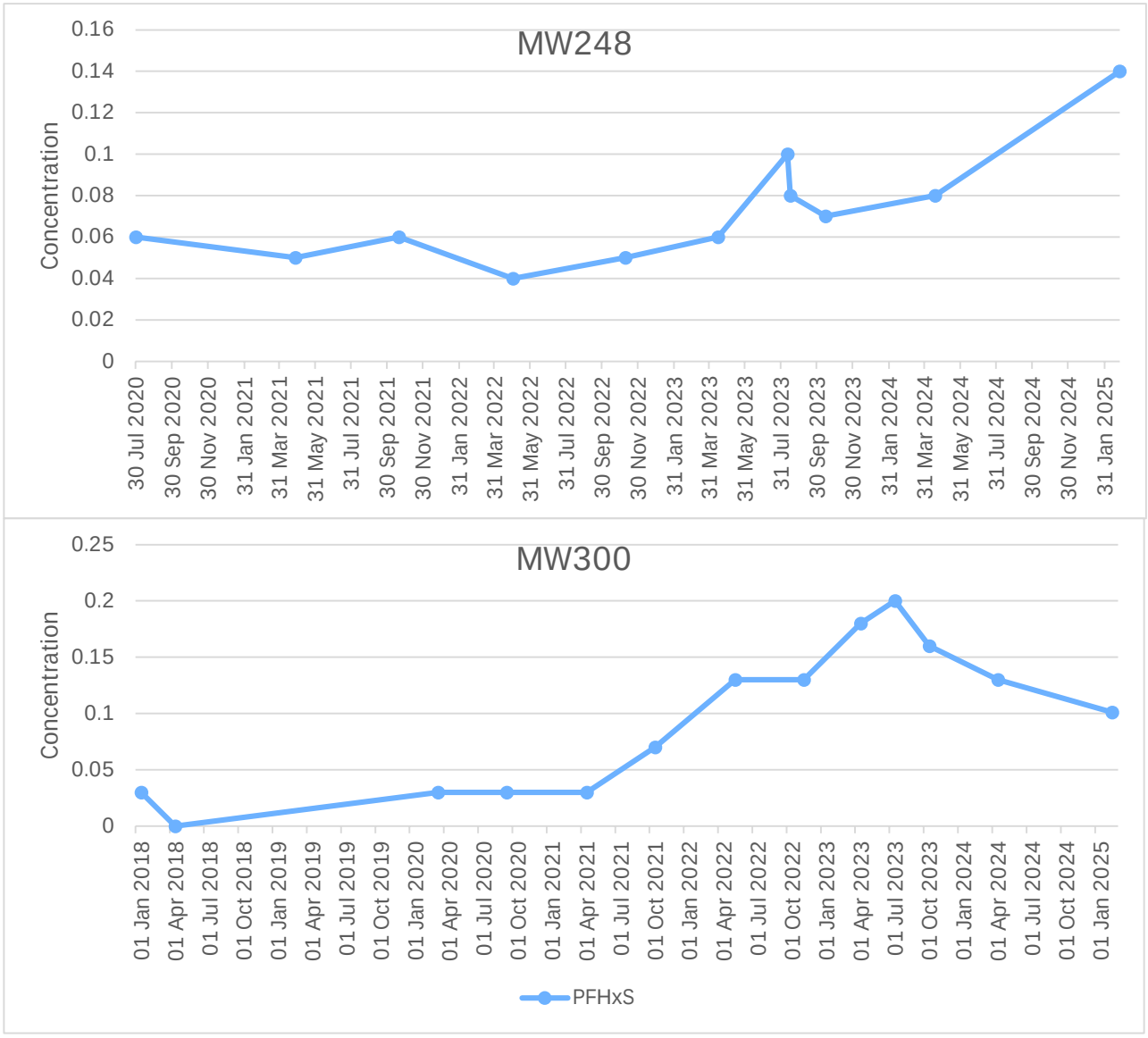

Figure 6-2. Time-series plots of PFHxS for MW248 and MW300.

A summary of the OMP trigger levels and responses that were followed based on the results, in line with the SAQP is presented below in Table 6-8.

Table 6-8: Summary of OMP trigger levels and responses

Trigger	Response	Evaluation
First time detect of PFAS above laboratory LOR in surface water or groundwater	▪ Request the analytical laboratory to reanalyse the sample to verify detection ▪ If initial sample verified by laboratory, resample location within one month and verify detection ▪ If detection verified in second sample, review CSM and potential risks to human health and environment ▪ Notify NSW EPA and other relevant agencies ▪ Consider increasing the monitoring frequency at the location	All first time detects for PFAS during this monitoring event were due to the lower LOR used for analysis of the recent sampling compared to previous sampling events that used a higher LOR. Therefore, additional verification by the laboratory was not required or undertaken. Defence was notified of the first-time detects on 31st March 2025.

Trigger	Response	Evaluation
	▪ Implement additional investigations or management actions as required ▪ For PFAS detections in groundwater downgradient of the estimated Gumly Gumly plume, consider refinements to the groundwater model	
First time exceedance of the drinking water guideline values in groundwater or the recreational water guideline values in surface water	▪ Request the analytical laboratory to reanalyse the sample to verify detection ▪ If initial sample verified by laboratory, resample location within one month and verify detection ▪ Calculate rolling average over a three-year period for sample results from the same location and compare with the appropriate guideline value ▪ If rolling average exceeds appropriate guideline value, review CSM and potential risks to human health and environment ▪ Notify NSW EPA and other relevant agencies ▪ Consider increasing the monitoring frequency at the location ▪ Implement additional investigations or management actions as required	There were no first time exceedances of the drinking water guideline values in groundwater or the recreational water guideline values in surface water and therefore no response required.
Increasing PFAS trends	▪ Further assessment of the data to determine if additional management actions are required ▪ If increasing PFAS levels in surface water samples from Marshalls Creek or Kyeamba Creek are identified then this may indicate the potential for higher PFAS uptake in aquatic biota in Murrumbidgee River. Aquatic biota sampling and a human health risk assessment may be required.	Further evaluation of increasing PFAS trends identified for MW248, MW253, MW254, MW259 and MW300 will be completed in the Ongoing Monitoring Report (OMR).
Decreasing PFAS trends	▪ Review monitoring frequency and / or need for ongoing monitoring at this location as part of annual OMP review.	Decreasing trends were identified at a number of groundwater and surface water sampling locations. Further evaluation of these trends will be completed in the OMR.

7. Conclusions & Recommendations

7.1 Conclusions

Jacobs conducted this sampling event at RAAF Base Wagga as part of the OMP, which comprised targeting 55 groundwater monitoring wells and 17 surface water sampling locations. Field observations and analytical results were generally consistent with previous results with some exceptions in the way of first-time detections.

The sampling event indicates that there were no significant changes compared to previous results.

7.2 Summary of sampling event and recommendations

The findings and the recommended actions from the February 2025 sampling event are summarised in Table 7-1.

Table 7-1. Summary of Sampling Event.

Item	Comment	Recommended Action
Access to sampling locations	Access to MW208 has not been permitted. Sampling of MW235 is not possible as the groundwater pump is not in operation.	MW208 and MW235 are recommended for removal from the next OMP update. In lieu of these samples, alternative sampling of representative groundwater should be planned from nearby MW206, MW225 and / or MW234.
Location unable to be located, inaccessible or dry	MW301, MW303, MW305, MW313 were reported to be dry and could not be sampled from at least two attempts. MW307 was not dry, however the volume of water was insufficient for sampling and analysis.	Maintain inclusion in the sampling events.
Monitoring well network condition	Groundwater monitoring wells were observed to be in generally good condition.	No recommended actions.
Analytical Results	Generally consistent with previous results with some exceptions captured by the OMP triggers.	No recommended actions.
First-time detections of PFHxS, PFOS and/or PFOA	First-time detections due to use of low level LORs were found at: ▪ eight groundwater monitoring wells for PFOA. ▪ two groundwater monitoring wells for PFOS. ▪ one groundwater monitoring well for PFHxS.	No action required due to lower LOR being the reason for first-time detects.
New exceedance of adopted human health screening criteria	No new exceedances.	No recommended actions.
New exceedance of adopted ecological screening criteria	No new exceedances.	No recommended actions.

Item	Comment	Recommended Action
Increasing or decreasing trends	Increasing trends were reported at MW248, MW253, MW254, MW259 and MW300. Decreasing trends were reported at MW200, MW204, MW240, MW245, MW312, SW228, SW234 and SW310.	No further action is recommended at this stage. It is noted that Defence is collaborating with NSW agencies and Riverina Water County Council on overall PFAS risks to water supply bores in East Wagga.

7.2.1 Upcoming sampling events

The next OMP sampling event is scheduled for between August and October, 2025.

7.2.2 Upcoming Ongoing Monitoring Report

An OMR will be prepared in accordance with the PFAS Investigation and Management Program, Guidance – Ongoing Monitoring Program Reporting (Defence 2024). The next OMR will include results and discuss trends for the OMP monitoring rounds between April 2024 and March 2025.

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Figure A-20. PFAS Concentration Distribution – Surface Water – Feb 2025 – PFOS

Figure A-21. PFAS Concentration Distribution – Surface Water – Feb 2025 – PFOA

Figure A-22. PFAS Concentration Distribution – Surface Water – Feb 2025 – PFHxS

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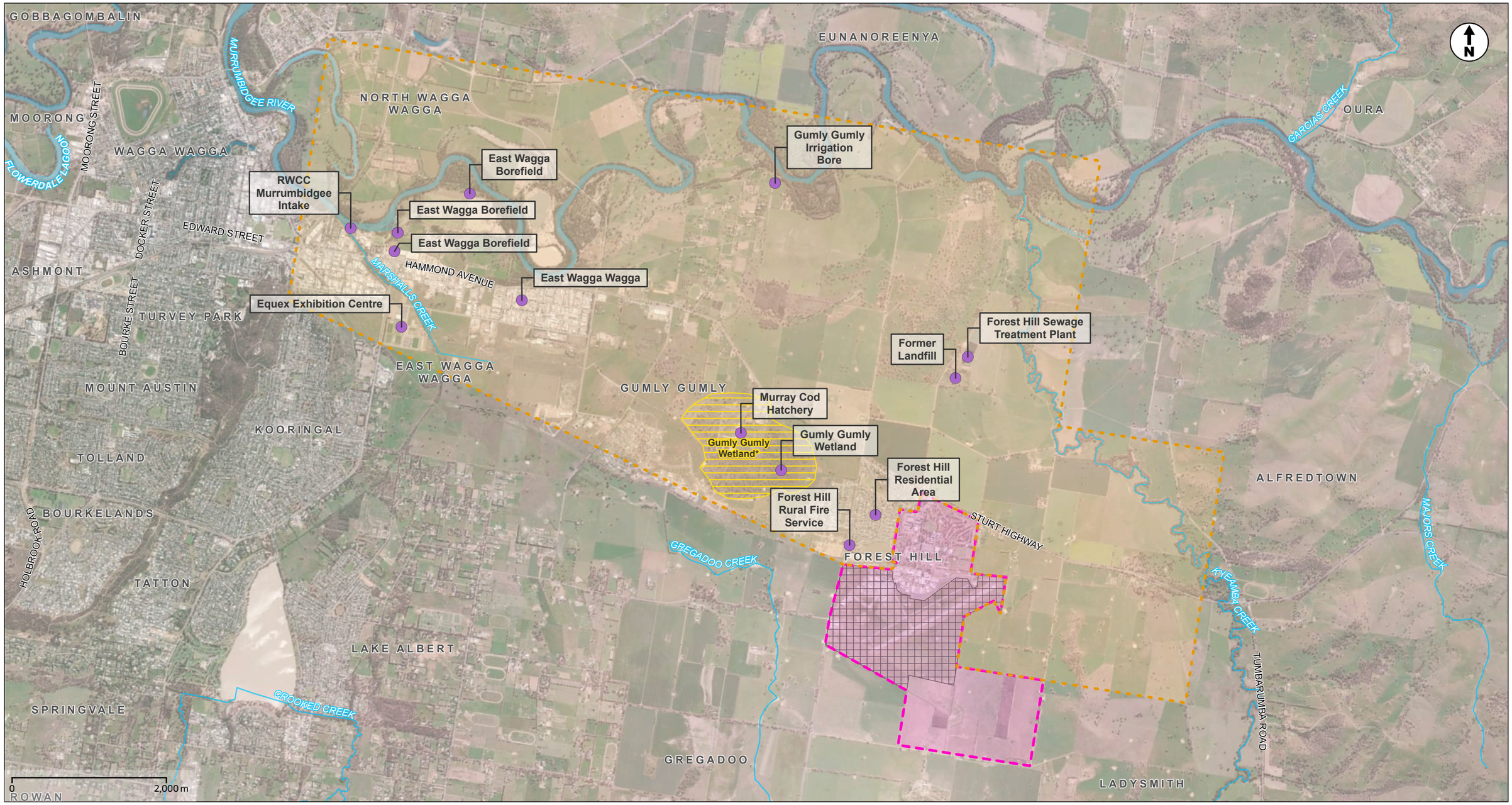


Legend

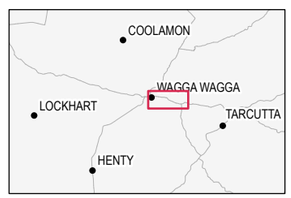
Monitoring Area
- On-base Management Area
- Off-base Monitoring Area

City of Wagga Wagga Council Lease Area

Point of interest

Watercourse

Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
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Figure A-1: RAAF Base Wagga, Site Locality Plan

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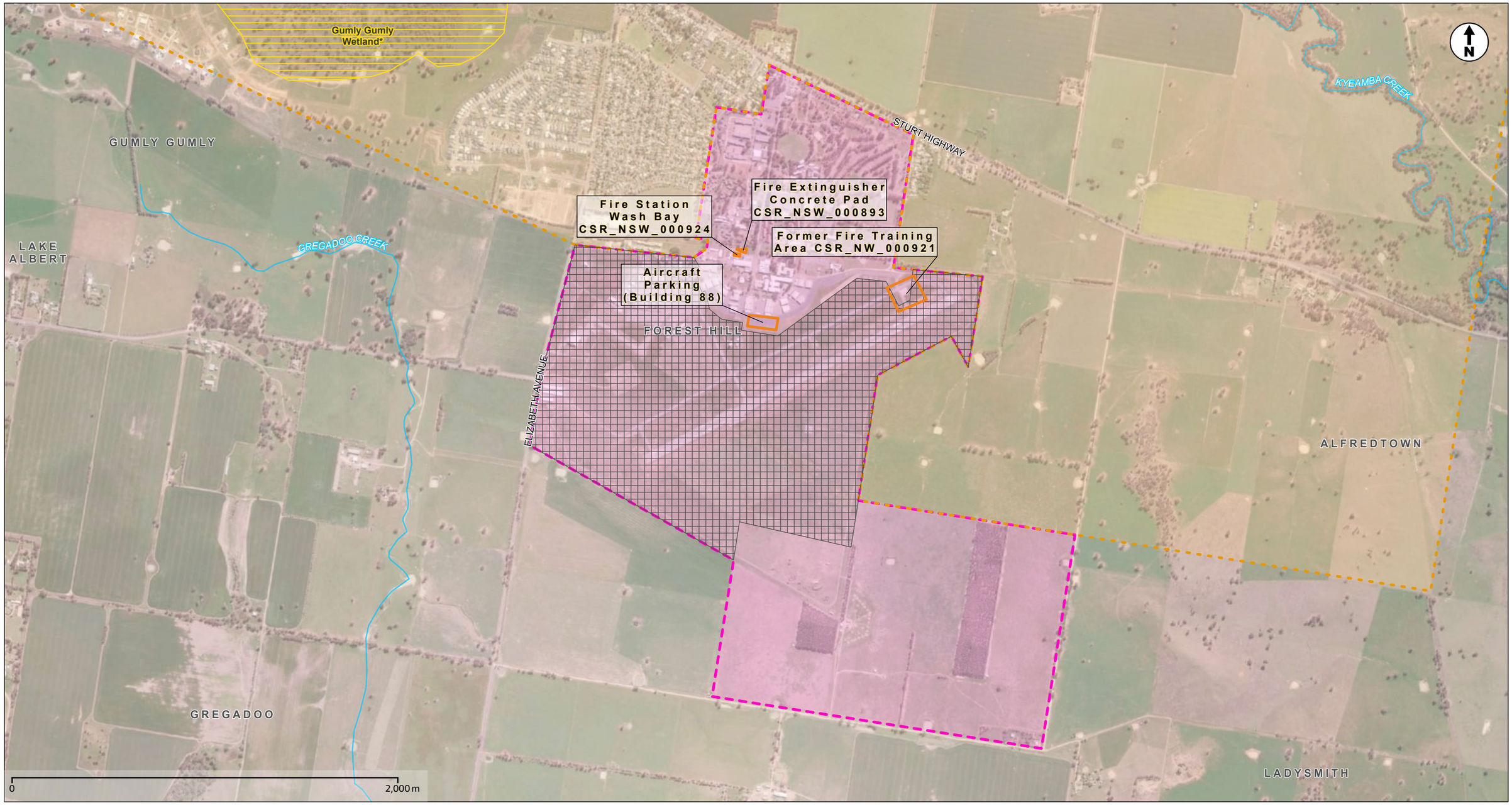
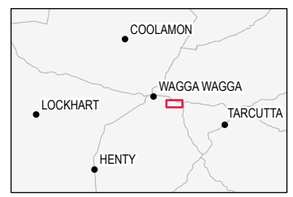


Legend

Monitoring Area
- On-base Management Area
- Off-base Monitoring Area

- Potential Source Area
- City of Wagga Wagga Council Lease Area

- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
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Figure A-2: RAAF Base Wagga, Site PFAS Sources and Management Areas

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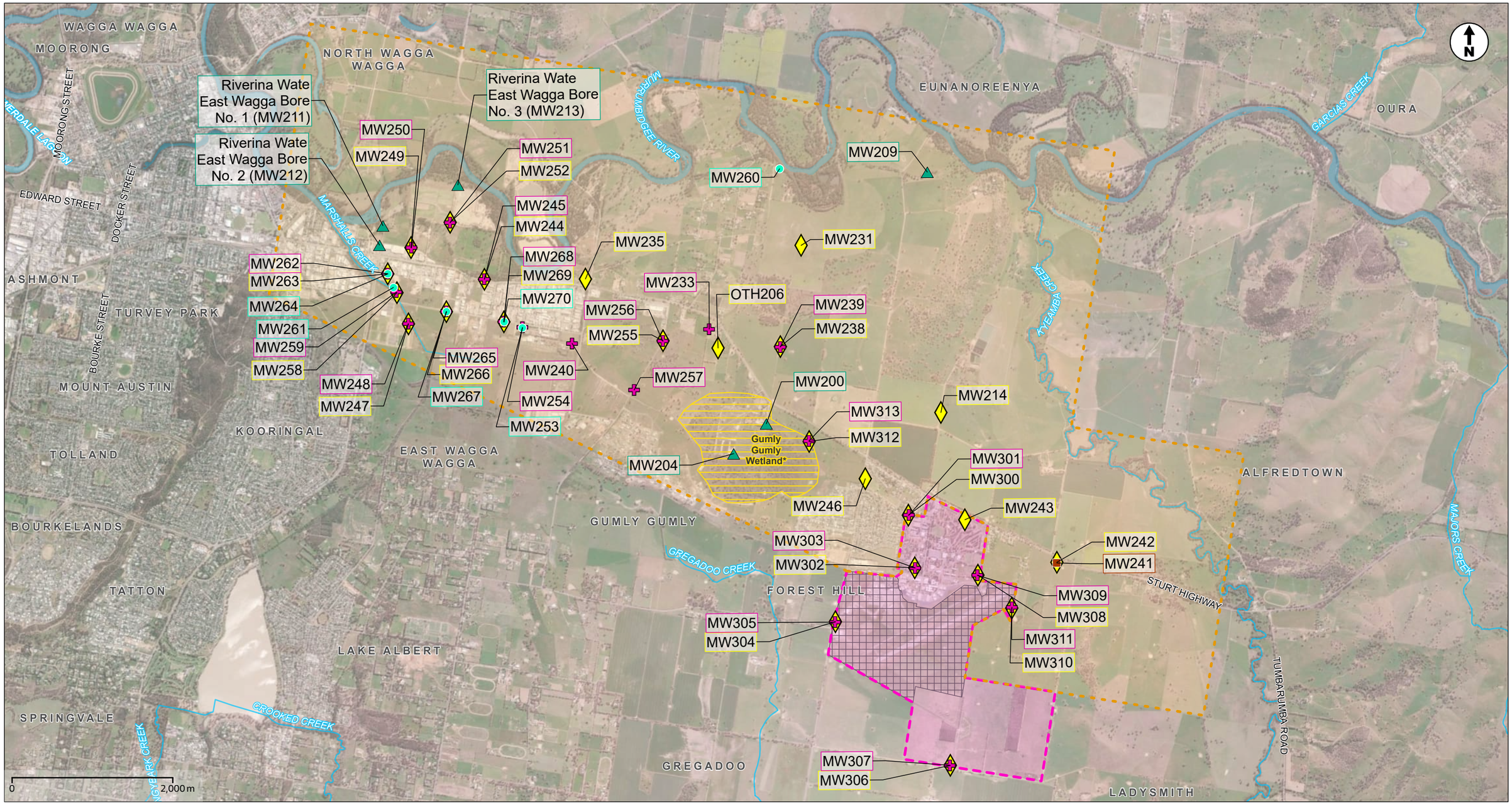


Legend

Groundwater Monitoring Wells

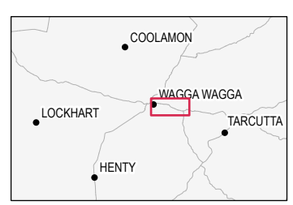
- Groundwater Lachlan (Cowra)
- Groundwater Lachlan (Upper formation)
- Groundwater Lachlan (Lower formation)
- Wantabadgery Granite
- Other [1]

[1] *Wells labelled as "other" were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.*

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area

- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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Data sources: Jacobs 2025, Department of Customer Service 2025
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Figure A-3: Groundwater Monitoring Network

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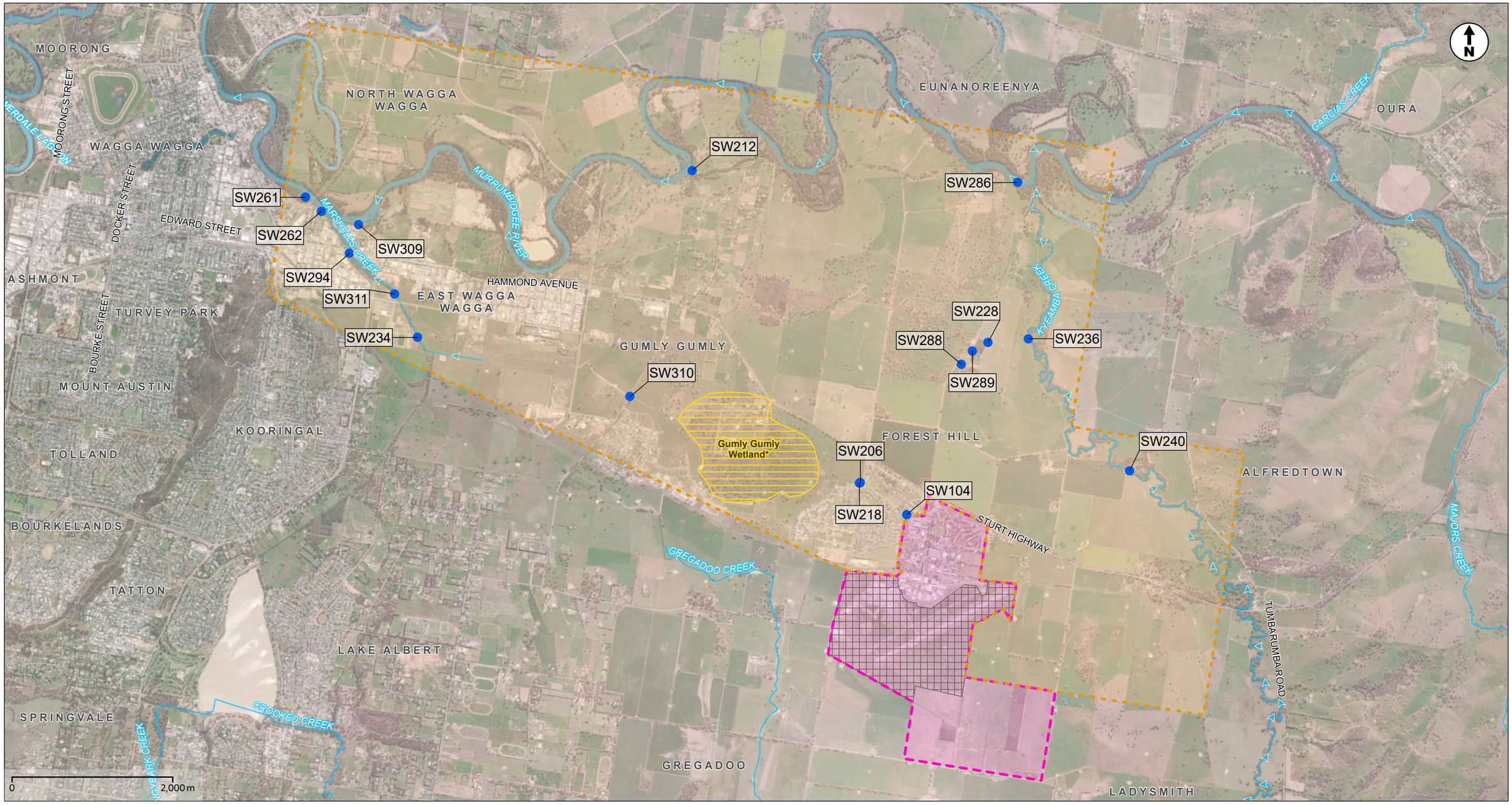


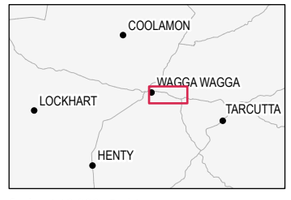
Legend

- Surface Water Monitoring Locations

Monitoring Area
- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site
- City of Wagga Wagga Council Lease Area

- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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GDA2020 MGA Zone 55
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Figure A-4: Surface Water Monitoring Network

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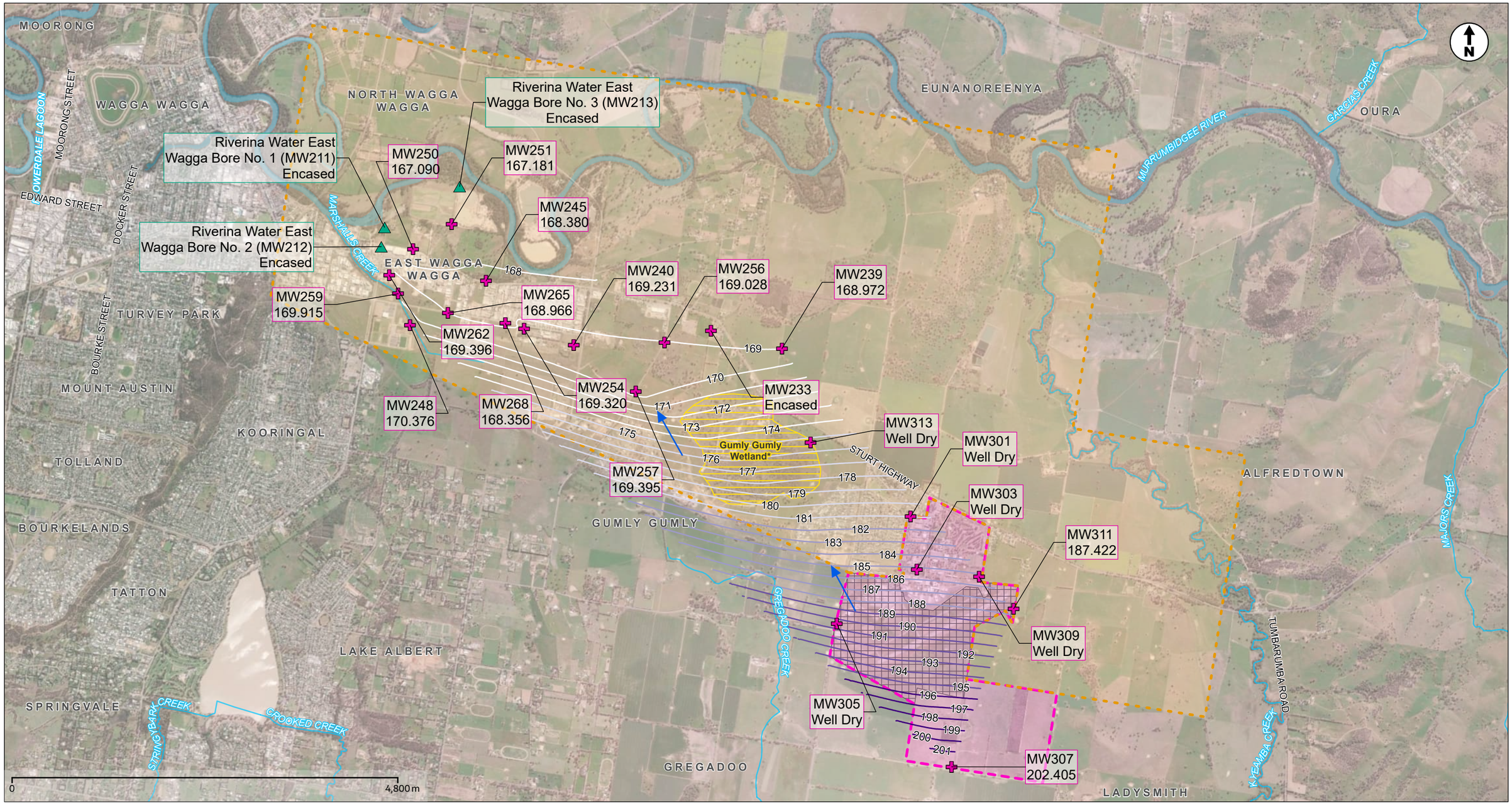


Legend

Groundwater Monitoring Wells

- Groundwater Lachlan (Cowra) — *Measured elevation (m) has been shown for the wells for which the measurement was possible*
- Other [1]

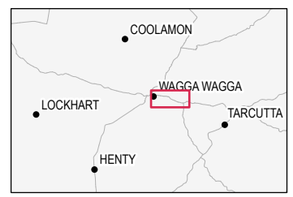
[1]Wells labelled as "other" were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.

Groundwater Contours (mAHD)

- 168 - 174
- 175 - 181
- 182 - 188
- 189 - 195
- 196 - 202
- Groundwater flow direction

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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GDA2020 MGA Zone 55
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Figure A-5: Inferred Groundwater Contours (Cowra) (Feb 2025)

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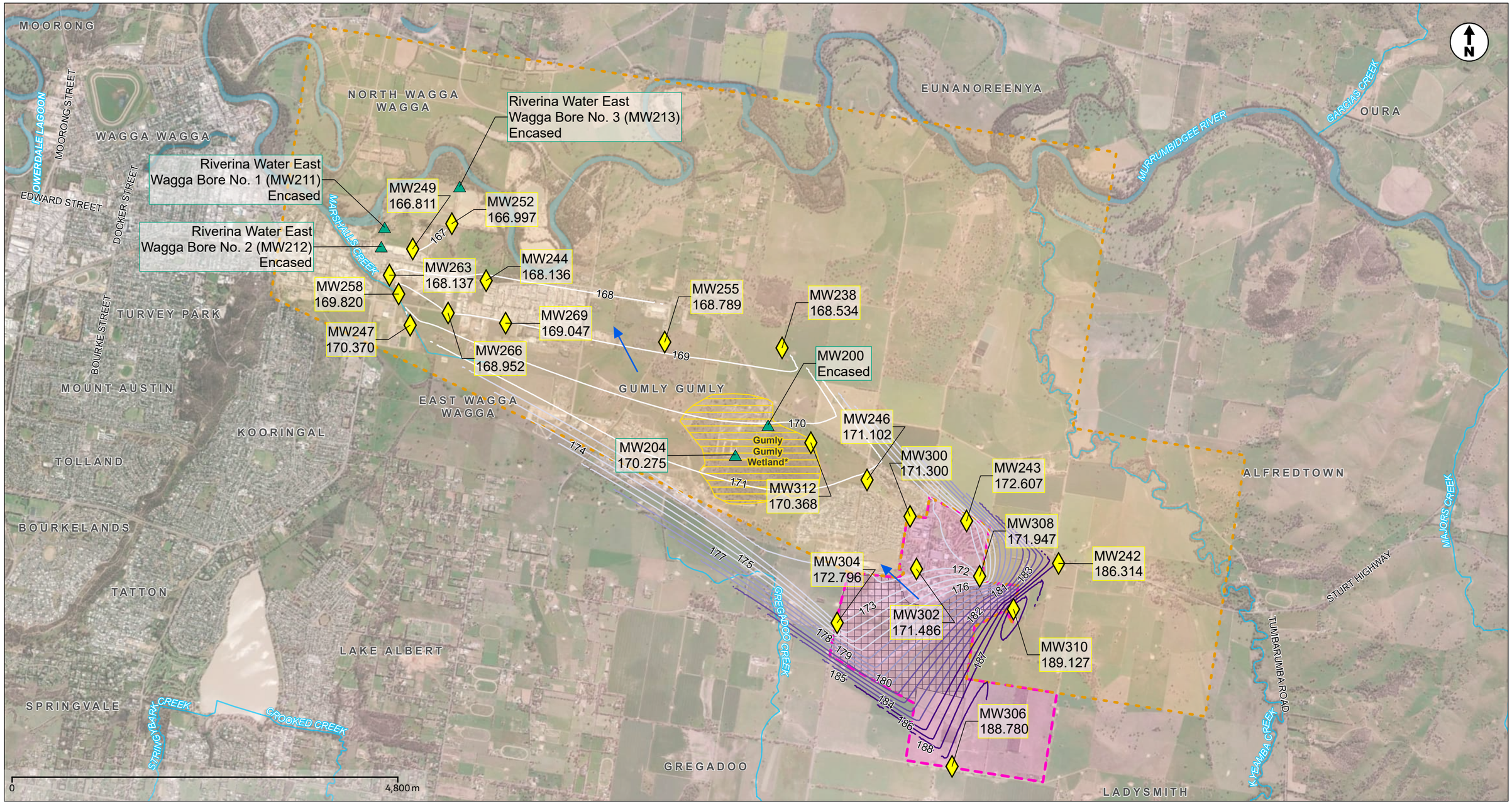


Legend

Groundwater Monitoring Wells

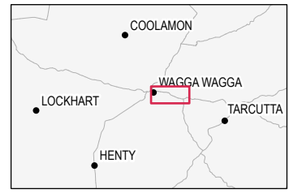
- Groundwater Lachlan (Upper formation) — *Measured elevation (m) has been shown for the wells for which the measurement was possible*

Contour

- 167 - 171
- 172 - 176
- 177 - 180
- 181 - 184
- 185 - 188
- Groundwater flow direction

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*



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Data sources: Jacobs 2025, Department of Customer Service 2025
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Figure A-6: Inferred Groundwater Contours (Upper Lachlan) (Feb 2025)

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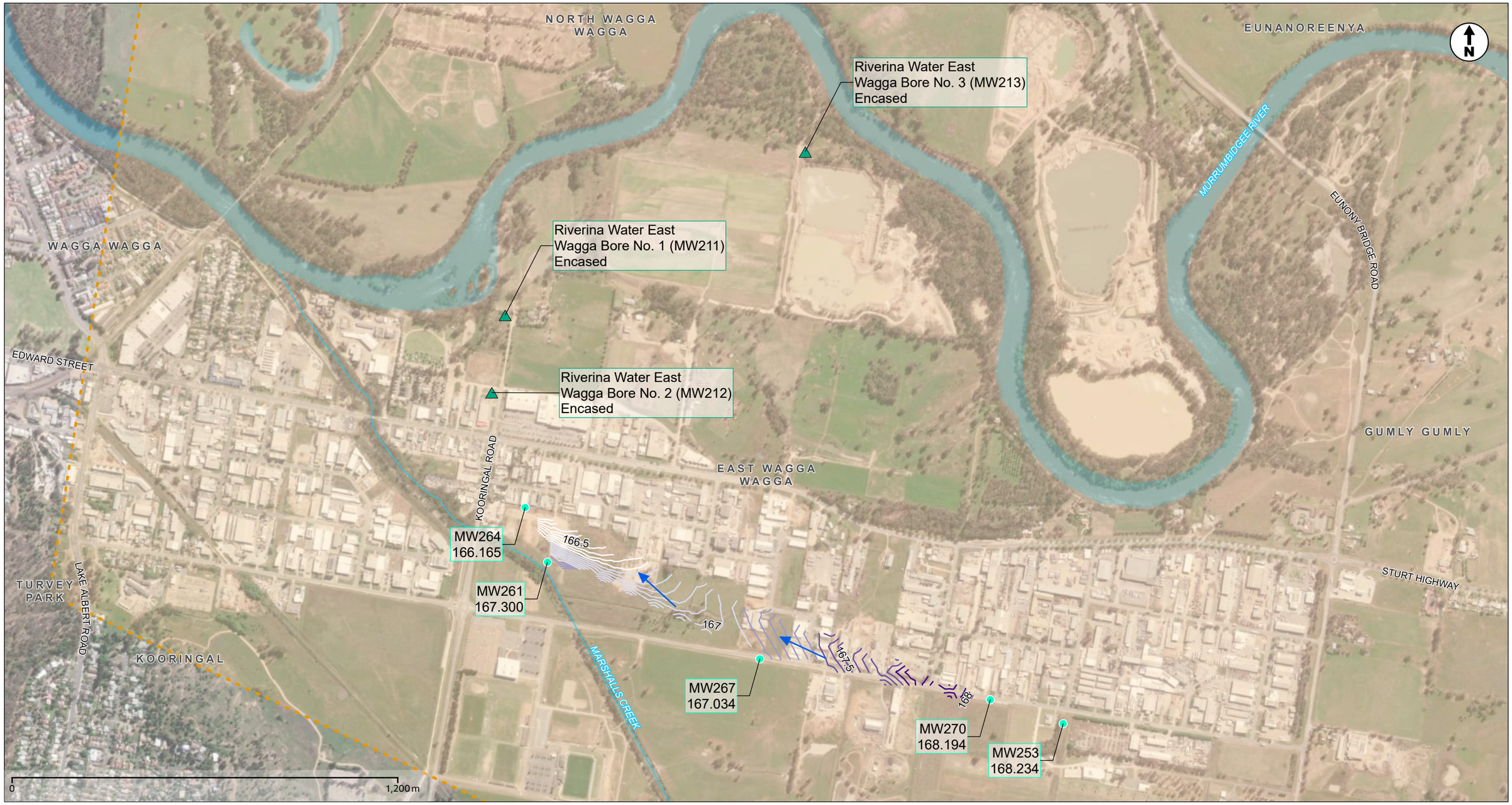

Legend

Groundwater Monitoring Wells

- Groundwater Lachlan (Lower formation) — *Measured elevation (m) has been shown for the wells for which the measurement was possible*
- Other [1] — *[1]Wells labelled as "other" were either constructed with a gravel pack from ground surface to termination depth or construction details are unclear.*

Groundwater Contours (mAHD)

- 166 - 167
- 168 - 167
- 168 - 167
- 168 - 168
- 169 - 168
- Groundwater flow direction

Monitoring Area

- Off-base Monitoring Area
- Watercourse

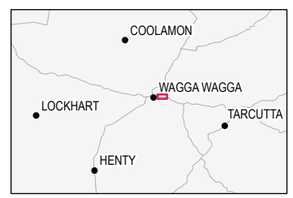

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Figure A-7: Inferred Groundwater Contours (Lower Lachlan) (Feb 2025)

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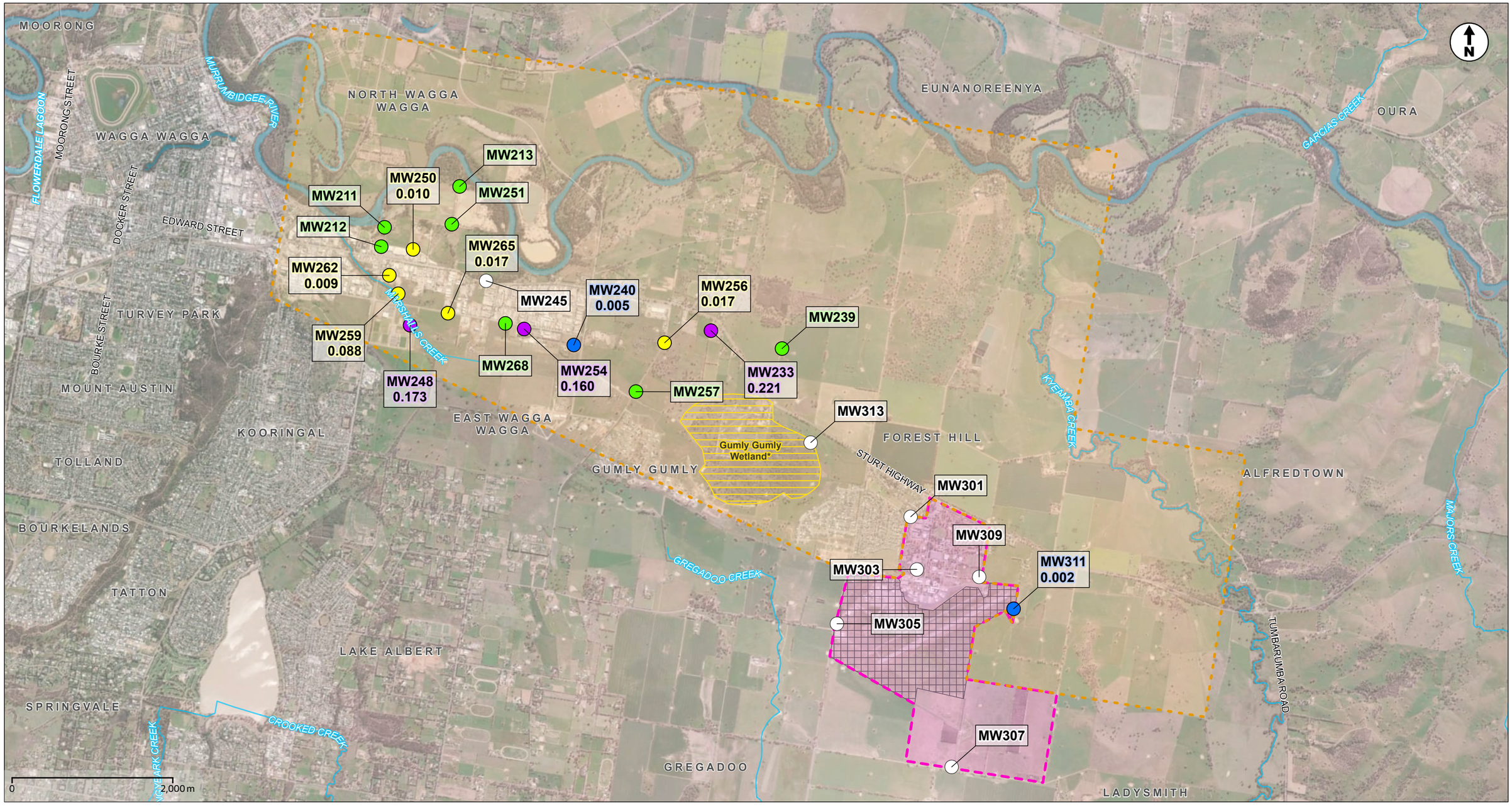

Legend

Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		

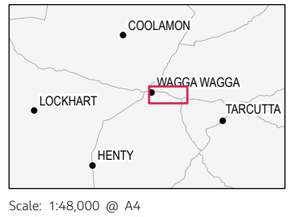

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Figure A-8: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS - (Cowra)

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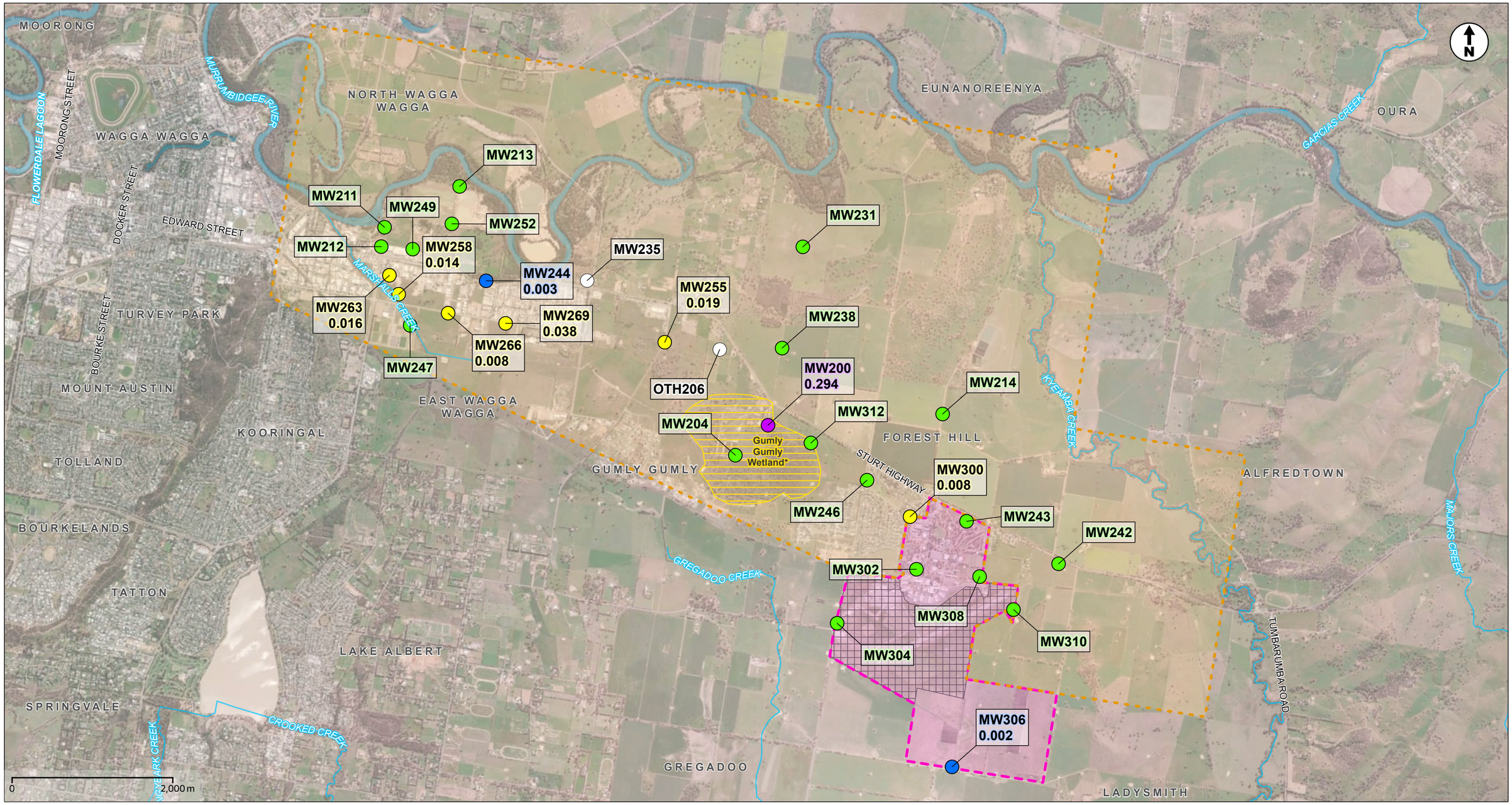


Legend

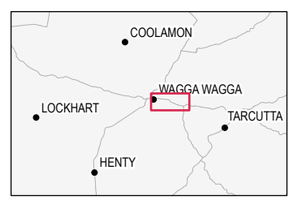
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-9: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS - (Upper Lachlan)

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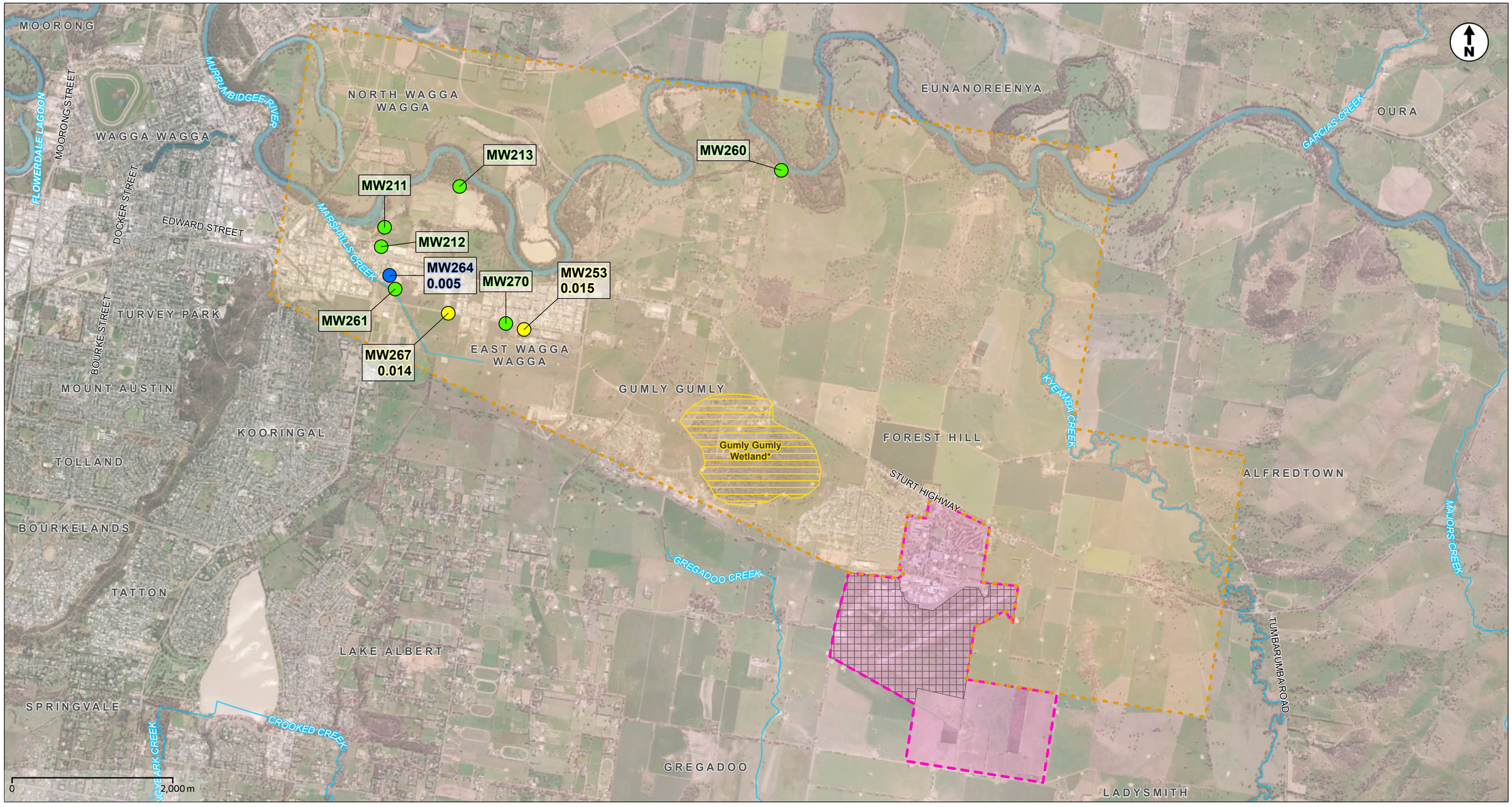


Legend

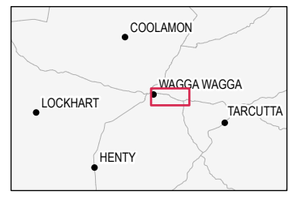
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



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GDA2020 MGA Zone 55
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Figure A-10: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS - (Lower Lachlan)

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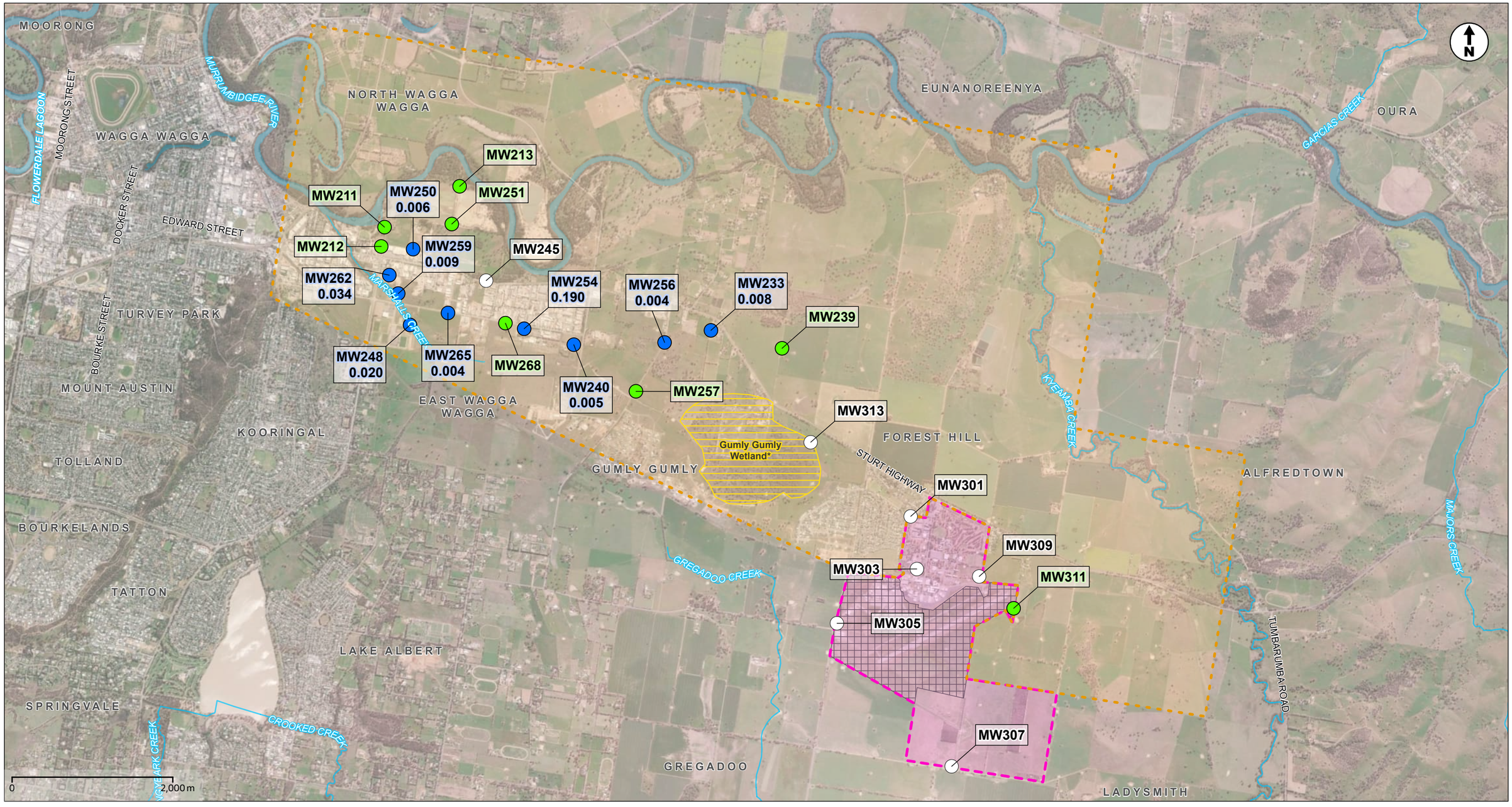


Legend

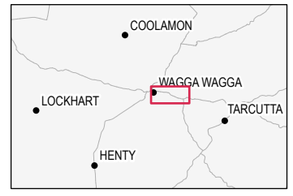
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



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GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-11: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOA - (Cowra)

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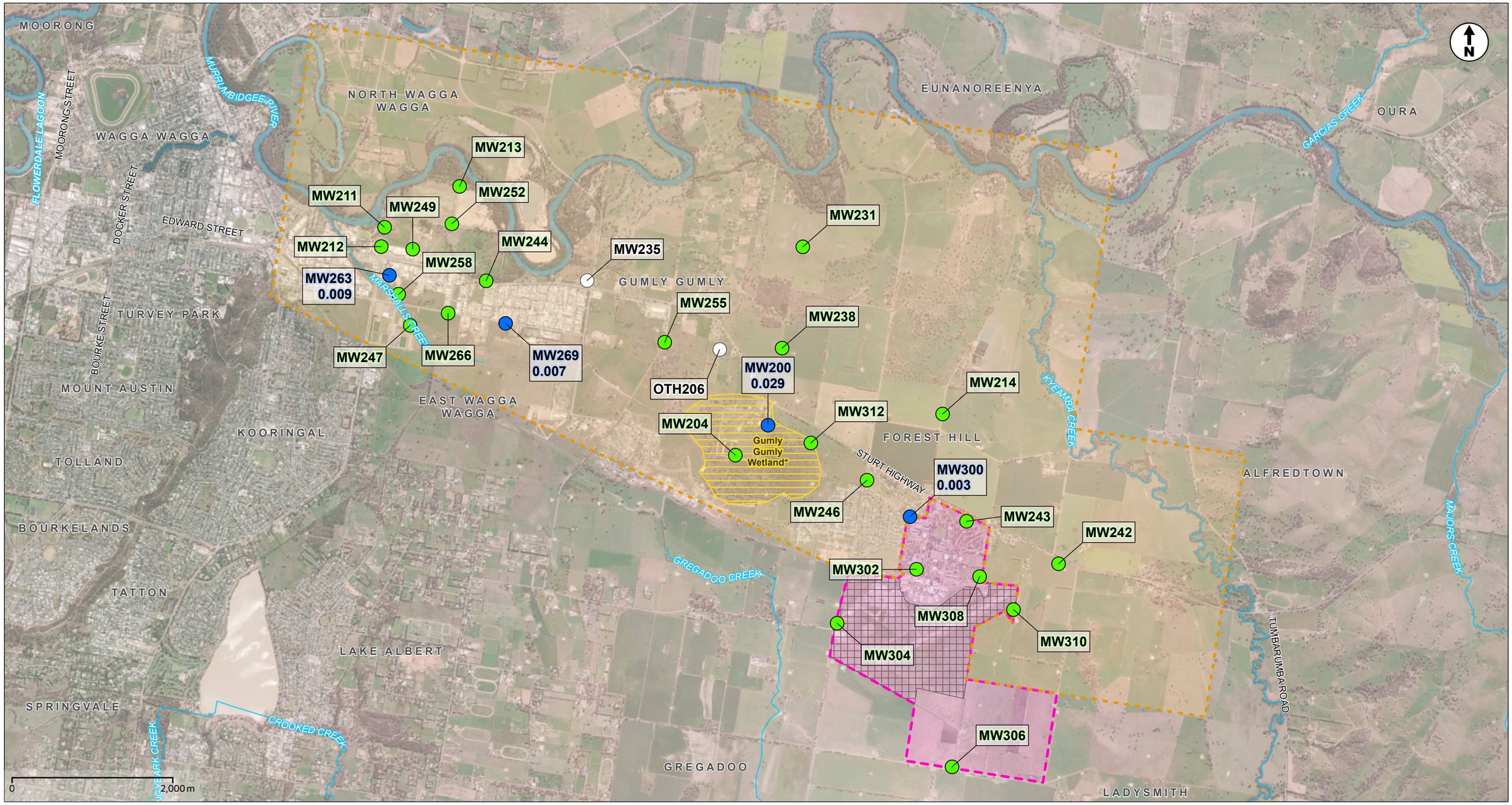


Legend

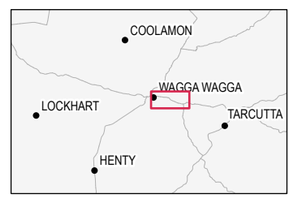
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-12: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOA - (Upper Lachlan)

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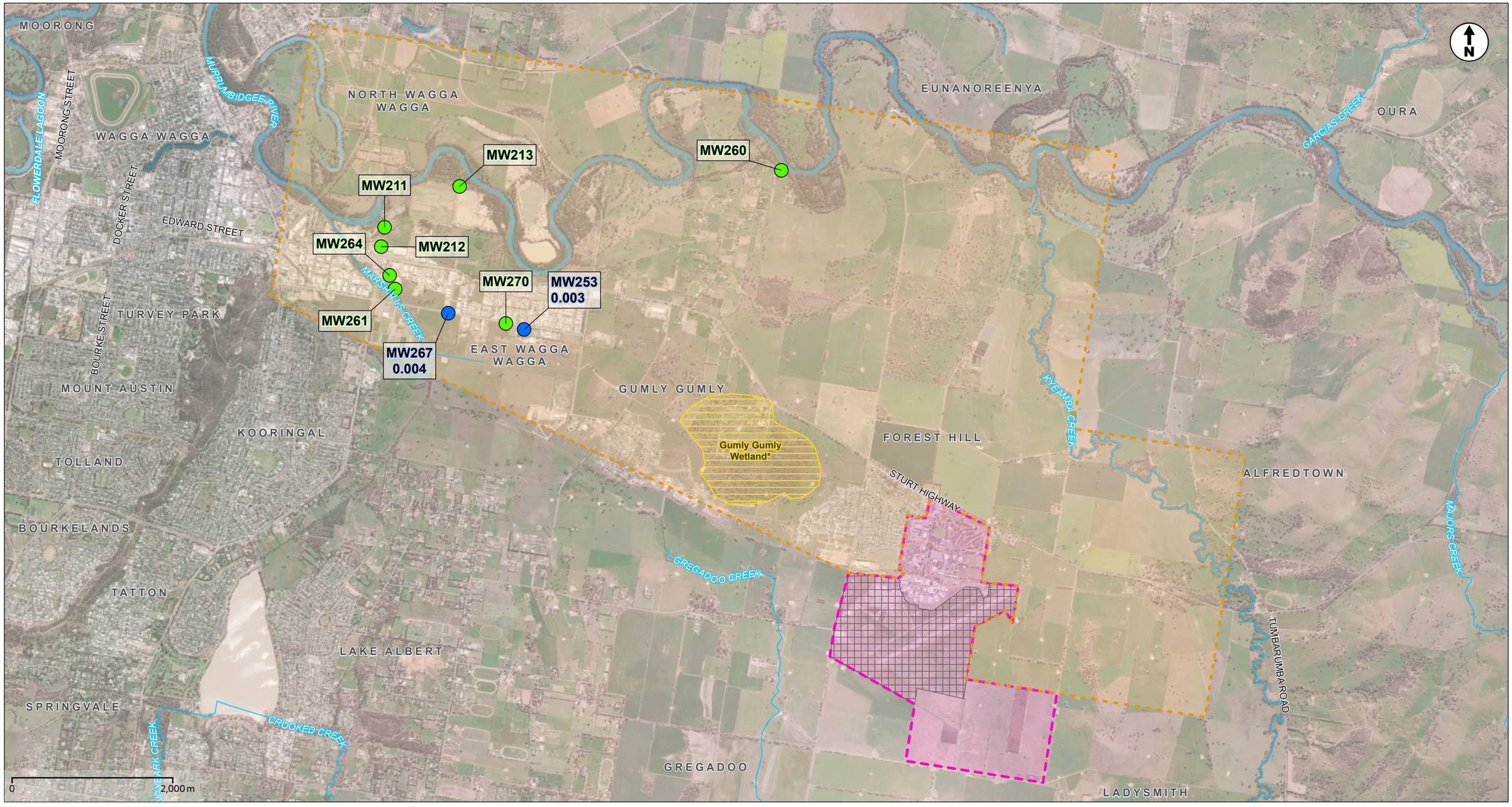


Legend

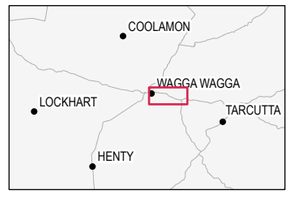
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-13: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOA - (Lower Lachlan)

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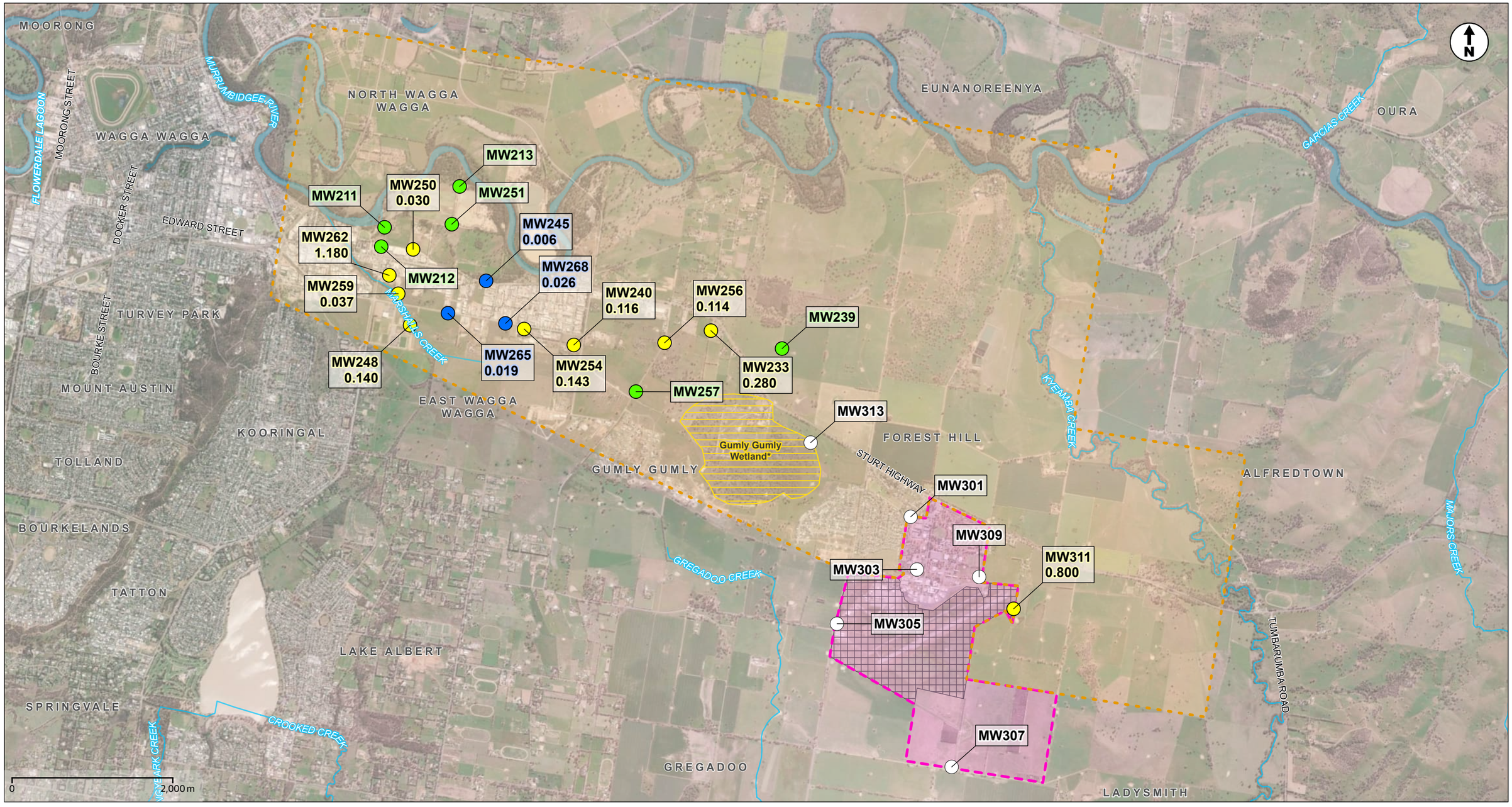


Legend

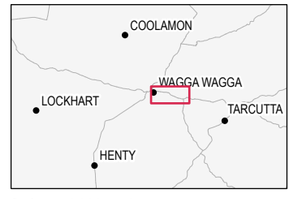
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-14: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFHxS - (Cowra)

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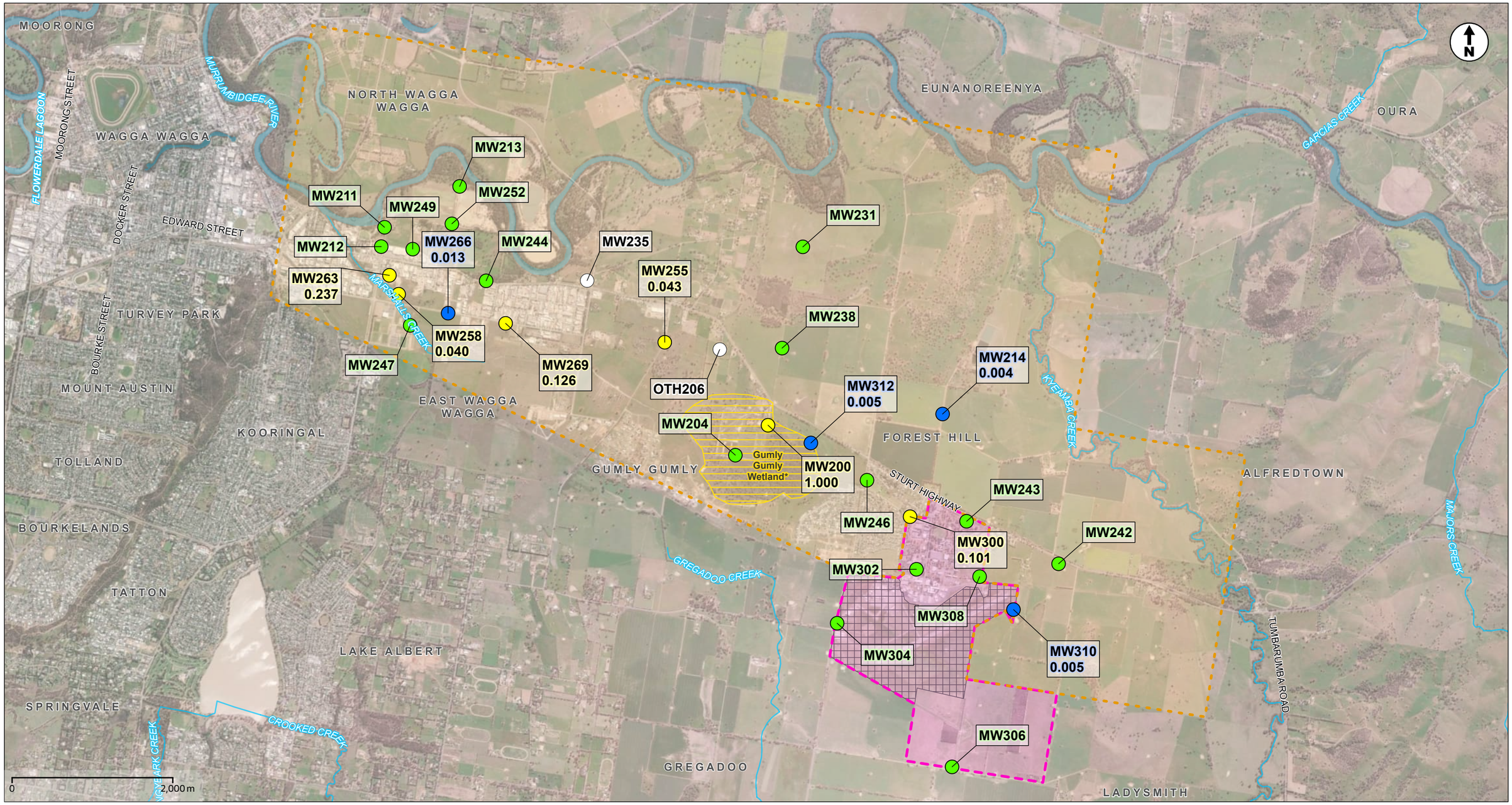


Legend

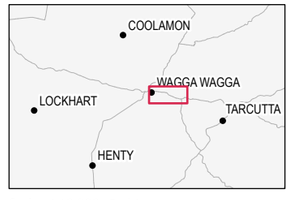
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
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Basemap: Metromaps 2025

Figure A-15: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFHxS - (Upper Lachlan)

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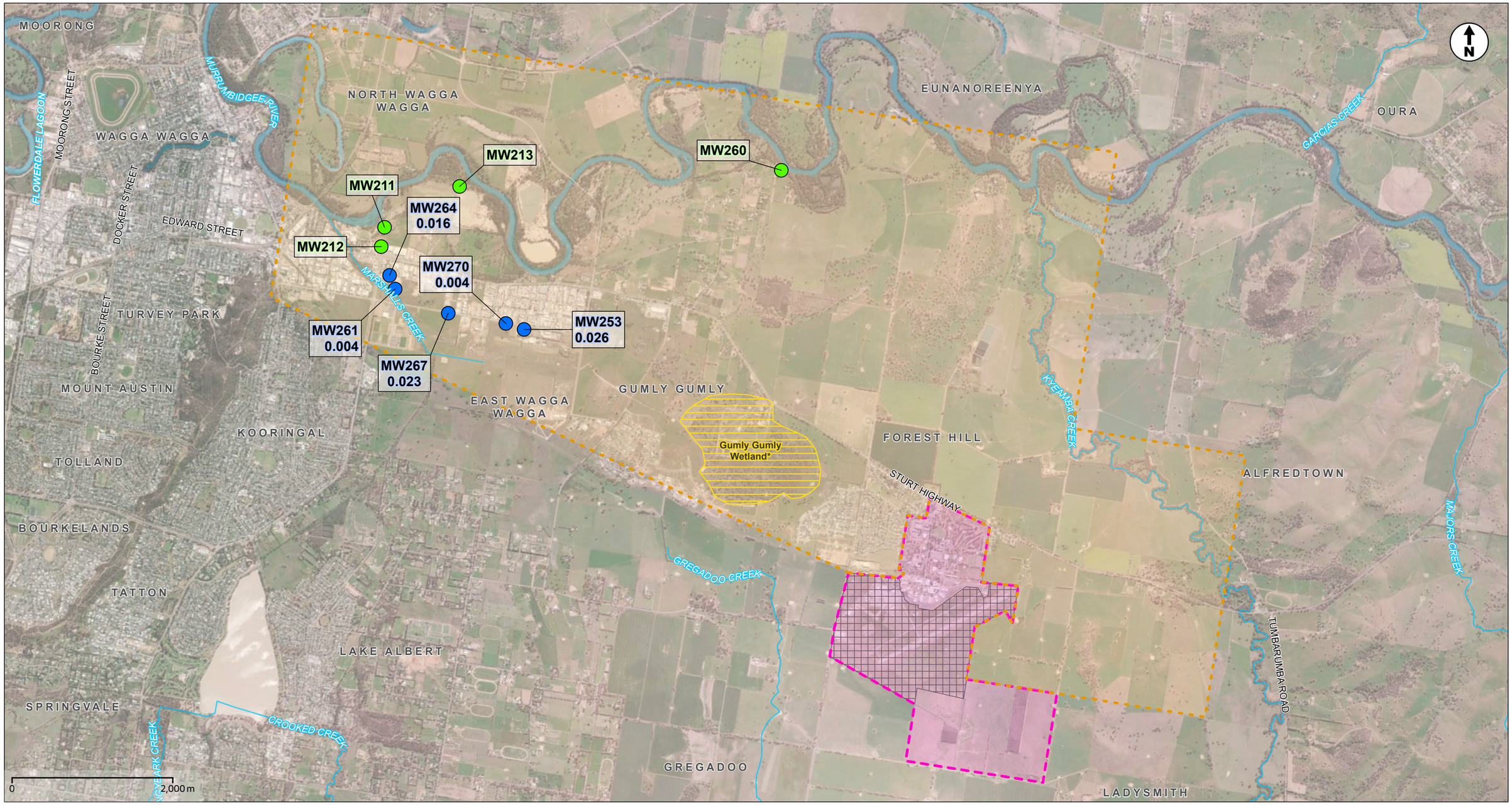


Legend

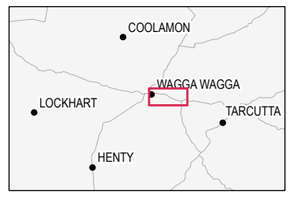
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-16: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFHxS - (Lower Lachlan)

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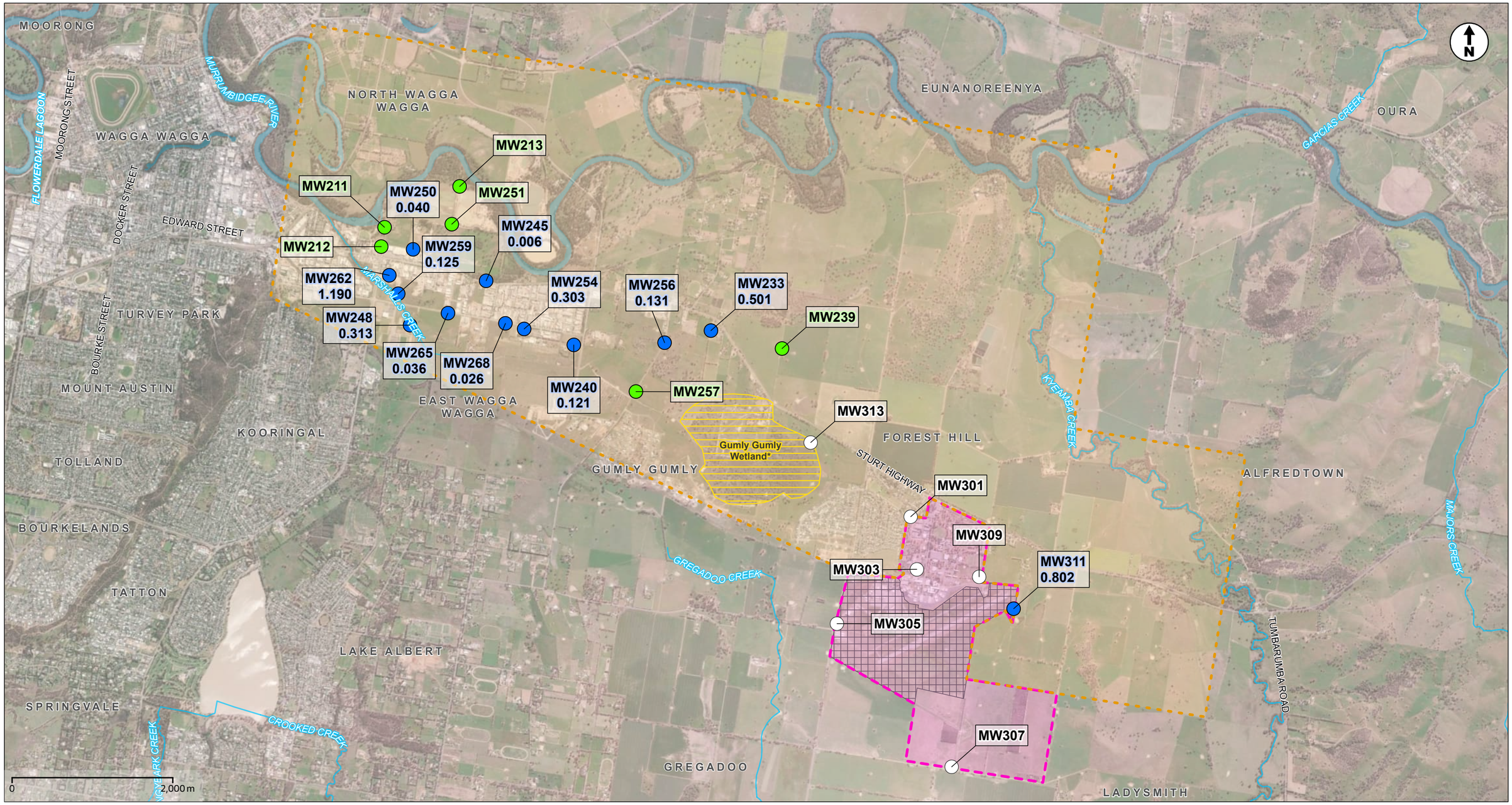


Legend

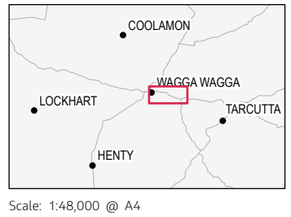
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥Recreational

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*
- Watercourse

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-17: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS+PFHxS - (Cowra)

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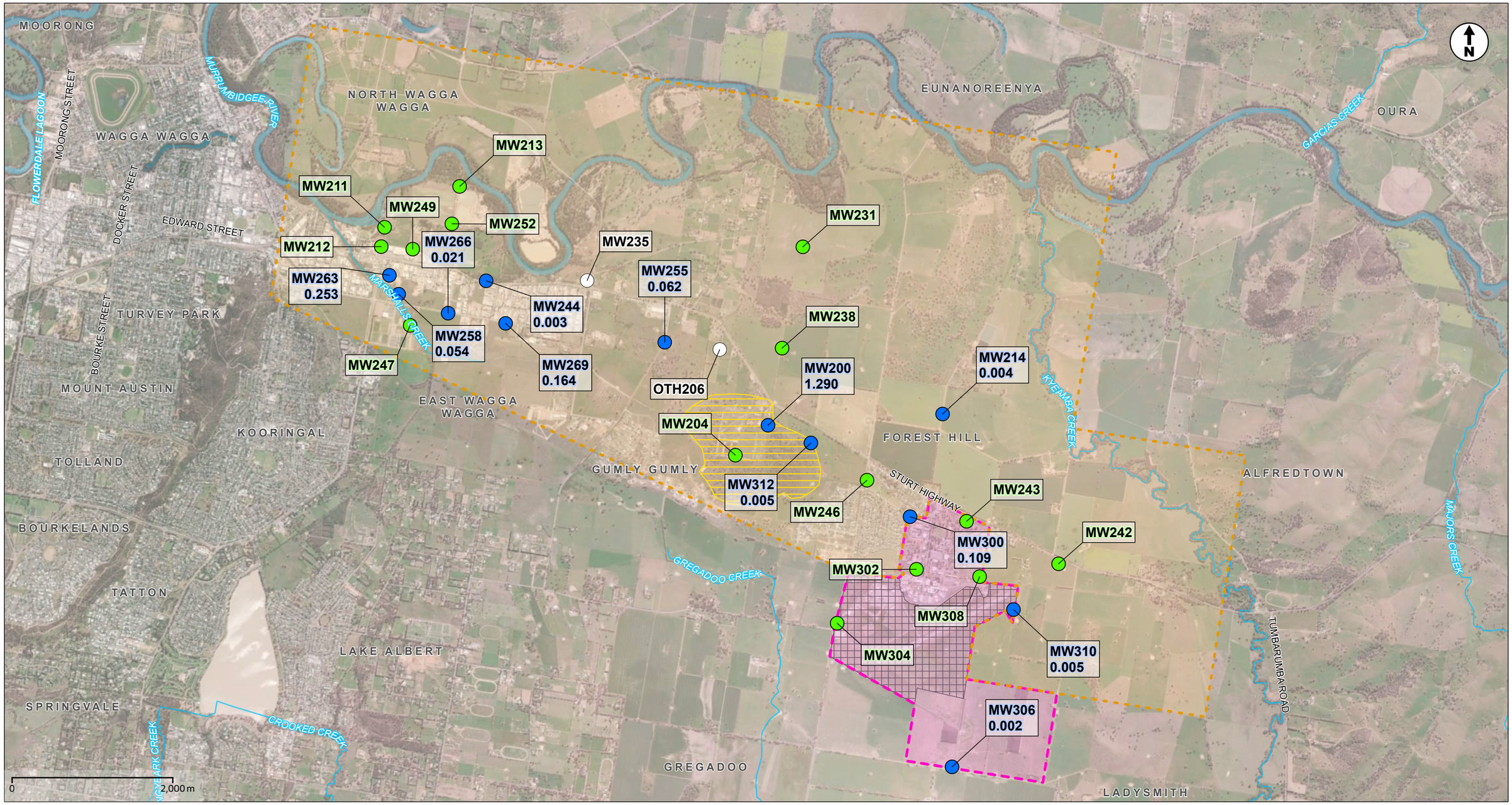


Legend

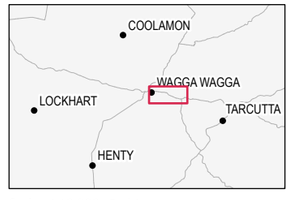
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥Recreational

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*
- Watercourse

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-18: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS+PFHxS - (Upper Lachlan)

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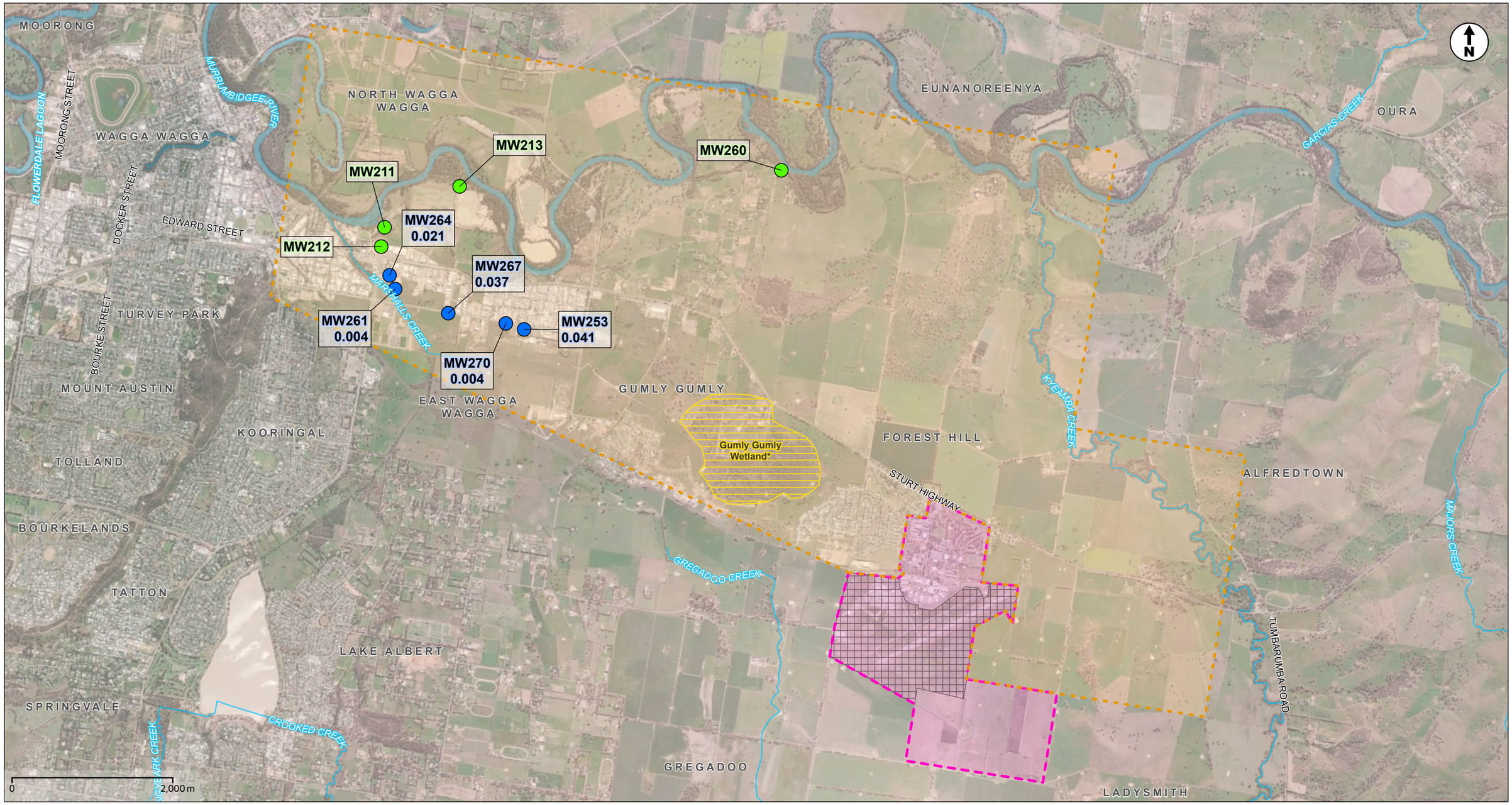


Legend

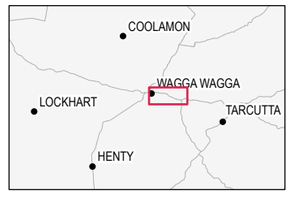
Groundwater samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥Recreational

Monitoring Area

- On-base Management Area
- Off-base Monitoring Area
- City of Wagga Wagga Council Lease Area
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*
- Watercourse

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-19: PFAS Concentration Distribution - Groundwater - Feb 2025 - PFOS+PFHxS - (Lower Lachlan)

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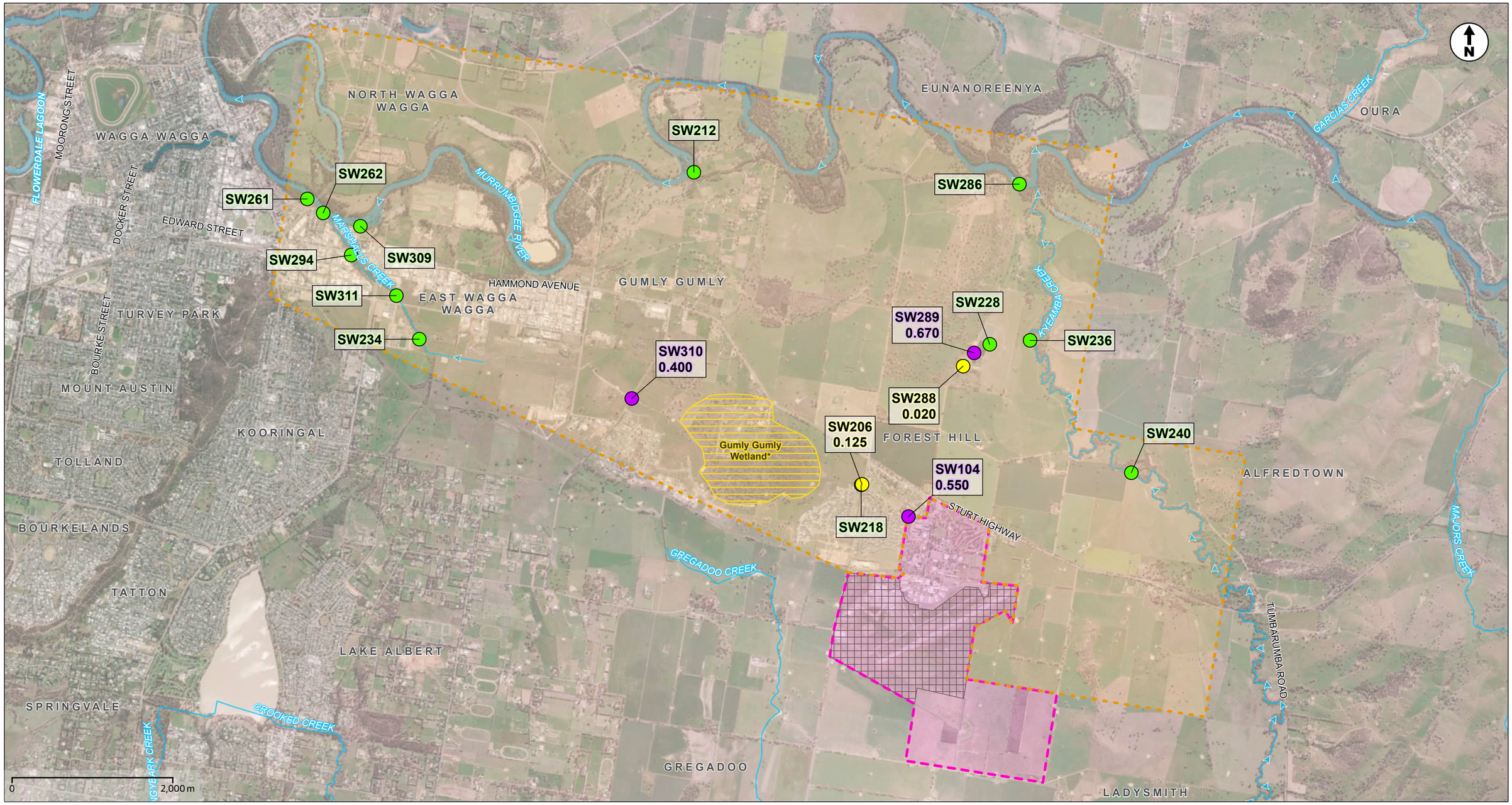


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

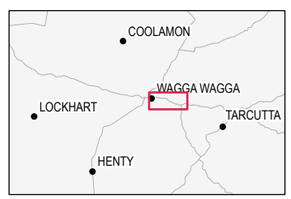
Monitoring Area

- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
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Data sources: Jacobs 2025, Department of Customer Service 2025
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Figure A-20: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFOS

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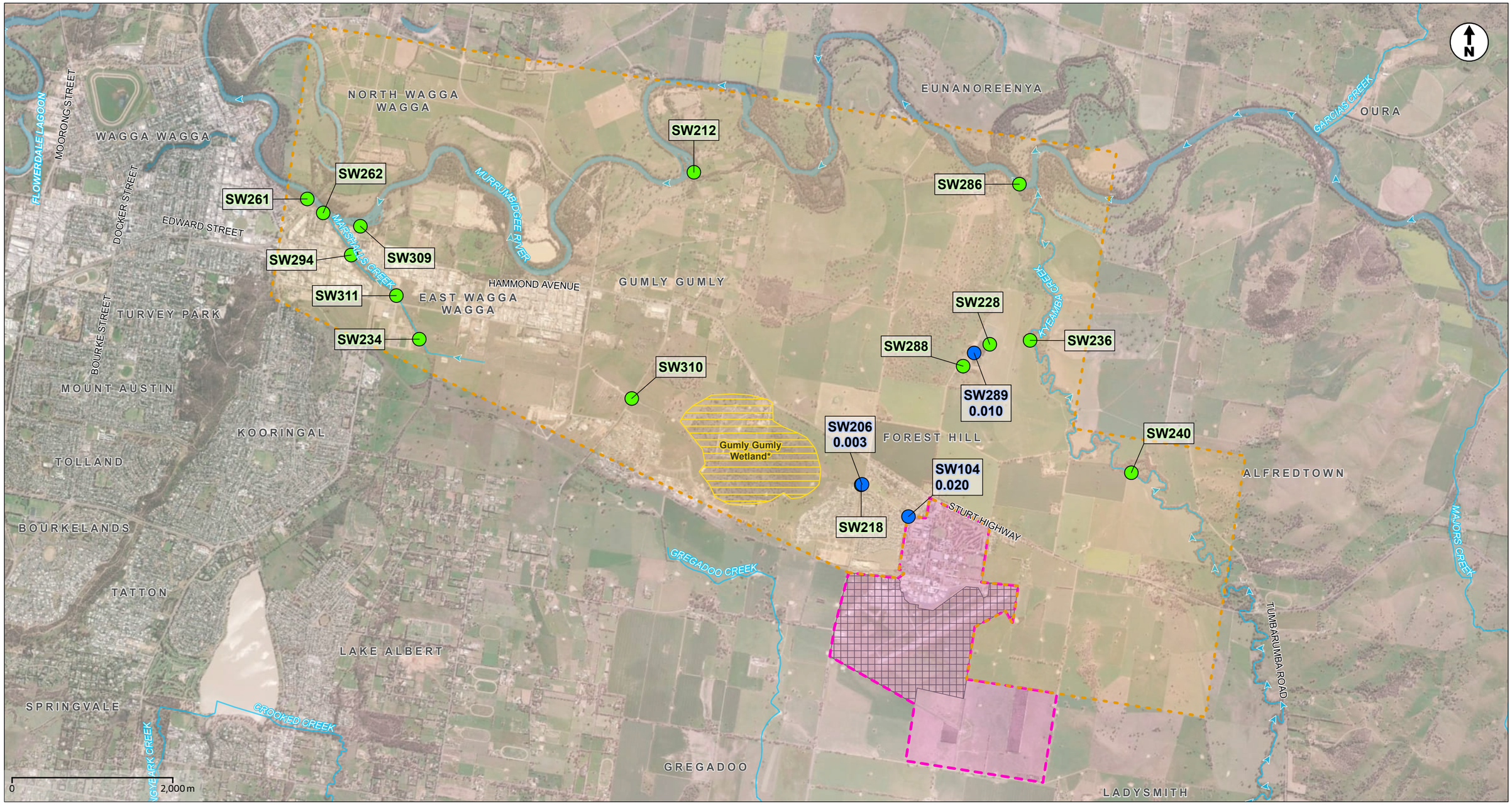


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

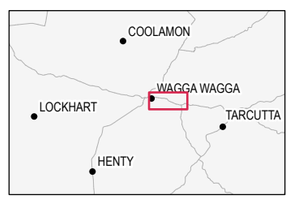
Monitoring Area

- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-21: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFOA

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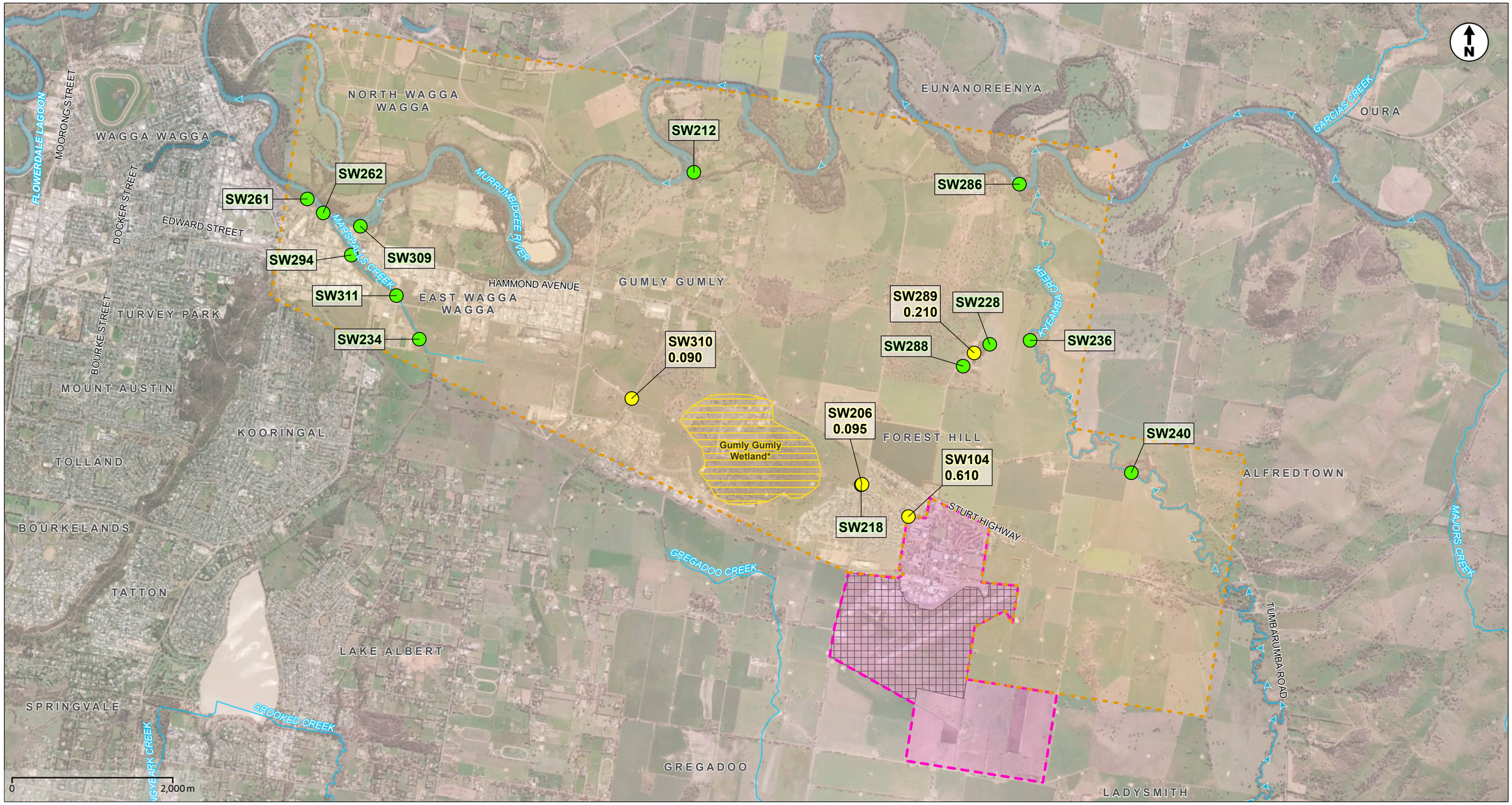


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

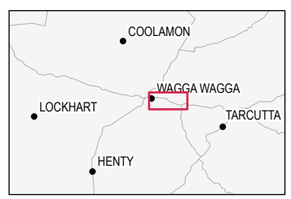
Monitoring Area

- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
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Figure A-22: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFHxS

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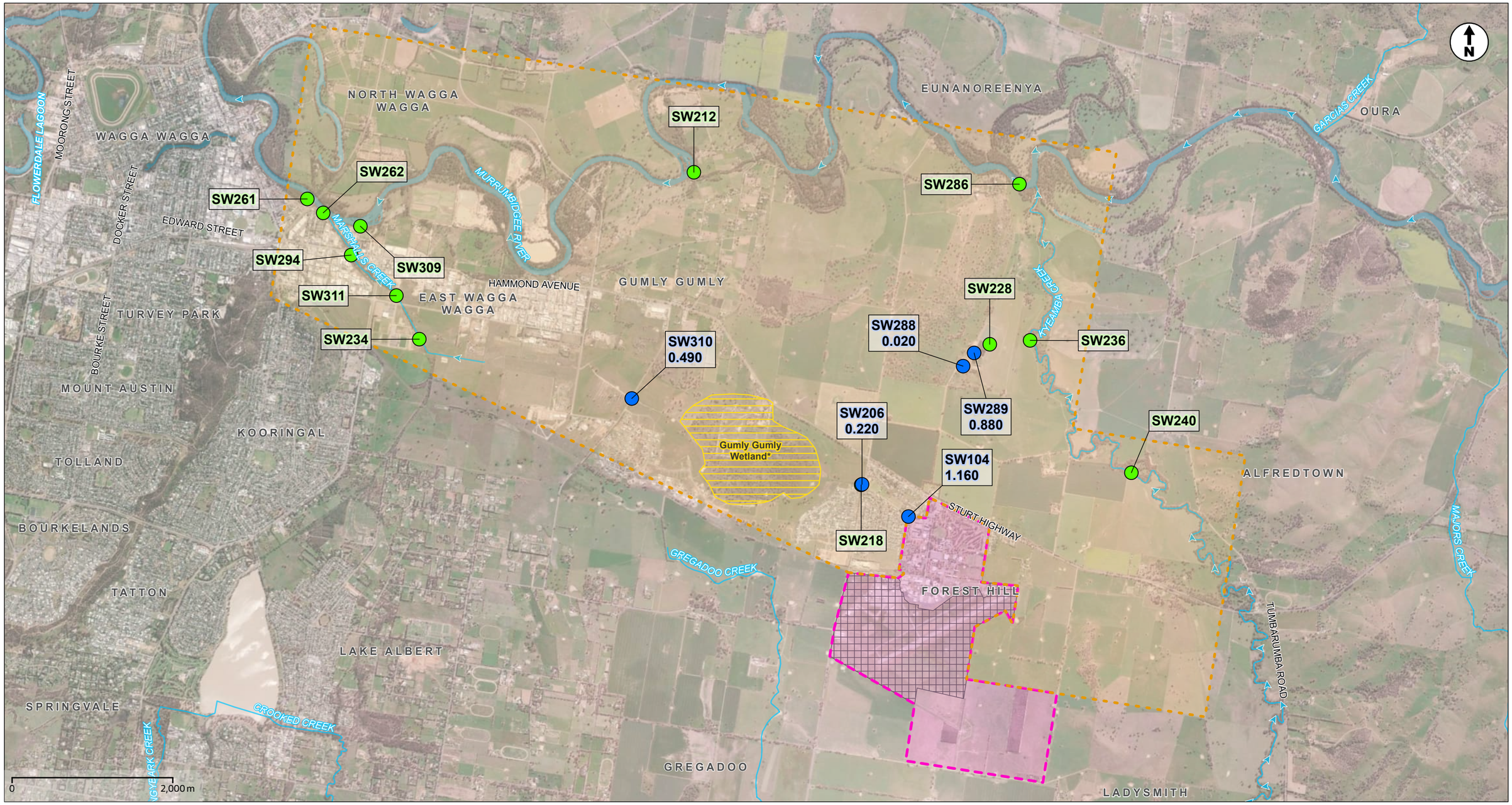


Legend

Surface water samples (result units are in µg/L)

- Not sampled
- <LOR
- ≥LOR
- ≥ Drinking Water Guideline
- ≥Recreational
- ≥Ecology

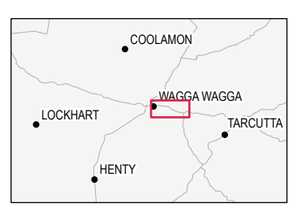
Monitoring Area

- On-base Management Area
- Off-base Monitoring Area

Wagga Wagga site

- City of Wagga Wagga Council Lease Area
- Watercourse
- Wetlands **Gumly Gumly Wetland boundary is indicative and based on imagery*

	PFOS	PFOA	PFHxS	PFOS+PFHxS
<LOR	<0.002	<0.002	<0.002	<0.002
≥LOR	≥0.002 - <0.008	≥0.002 - <0.2	≥0.002 - <0.03	≥0.002 - <2
≥Drinking Water Guideline	≥0.008 - <0.13	≥2 - <10	≥0.03	
≥Recreational (Human)		≥10 - <220		≥2
≥Ecology (Freshwater)	≥0.13	≥220		



Scale: 1:48,000 @ A4
GDA2020 MGA Zone 55
Data sources: Jacobs 2025, Department of Customer Service 2025
Basemap: Metromaps 2025

Figure A-23: PFAS Concentration Distribution - Surface Water - Feb 2025 - PFOS + PFHxS

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Appendix B. Summary Tables

Table B-1. Screening Summary – Groundwater Results

Table B-2. Screening Summary – Surface Water Results

Table B-3. Relative Percentage Differences – Water Results

Table B-4. Blank Sample Results

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Data Table B-1. Screening Summary - Groundwater Results

OMP - Holsworthy, Kapooka and Wagga
RAAF Base Wagga

							PFAS - Perfluoroalkyl Sulfonic Acids							PFAS - Perfluoroalkyl Carboxylic Acids										PFAS - (n:2) Fluorotelomer Sulfonic Acids			
							Perfluoropropane sulfonic acid (PFPrS)	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)
							µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL							0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
NHMRC 2025 Drinking Water Guideline Values								1[#1]		0.03[#1]		0.008[#1]						0.2[#1]										
PFAS NEMP 2020 Freshwater 95%												0.13[#2]						220[#2]										
PFAS NEMP 2020 Recreational Water																		10[#1]										
Location Code	Field ID	Date	Formation	Lab Report Number	Sample Code	Sample Type																						
MW239	0906_MW239_250226	26 Feb 2025	Cowra	ES2506554	ES2506554002	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW240	0906_MW240_250228	28 Feb 2025	Cowra	ES2506594	ES2506594012	Normal	<0.01	0.015	0.015	0.116	0.004	0.005	<0.002	<0.01	0.010	0.028	0.004	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW245	0906_MW245_250225	25 Feb 2025	Cowra	ES2506594	ES2506594006	Normal	<0.01	0.003	<0.002	0.006	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
	0906_QC101_250225	25 Feb 2025	Cowra	ES2506594	ES2506594007	Field_D	<0.01	0.004	<0.002	0.004	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW248	0906_MW248_250225	25 Feb 2025	Cowra	ES2506594	ES2506594009	Normal	<0.01	0.018	0.016	0.140	0.007	0.173	<0.002	0.03	0.071	0.073	0.034	0.020	0.033	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW250	0906_MW250_250225	25 Feb 2025	Cowra	ES2506594	ES2506594010	Normal	<0.01	0.005	0.003	0.030	<0.002	0.010	<0.002	0.02	0.058	0.040	0.012	0.006	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW251	0906_MW251_250227	27 Feb 2025	Cowra	ES2506606	ES2506606004	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW254	0906_MW254_250106	06 Feb 2025	Cowra	ES2503757	ES2503757039	Normal	<0.01	0.016	0.015	0.143	0.013	0.160	<0.002	0.02	0.077	0.065	0.051	0.190	0.006	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW256	0906_MW256_250228	28 Feb 2025	Cowra	ES2506594	ES2506594014	Normal	<0.01	0.020	0.020	0.114	0.005	0.017	<0.002	<0.01	0.008	0.034	0.003	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW257	0906_MW257_250228	28 Feb 2025	Cowra	ES2506594	ES2506594015	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW259	0906_MW259_250205	05 Feb 2025	Cowra	ES2503757	ES2503757017	Normal	<0.01	0.017	0.003	0.037	<0.002	0.088	<0.002	0.04	0.025	0.012	0.021	0.009	0.004	0.003	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW262	0906_MW262_250205	05 Feb 2025	Cowra	ES2503757	ES2503757013	Normal	0.09	0.252	0.324	1.18	0.005	0.009	<0.002	0.08	0.101	0.323	0.049	0.034	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW265	0906_MW265_240206	06 Feb 2025	Cowra	ES2503757	ES2503757025	Normal	<0.01	0.002	0.003	0.019	<0.002	0.017	<0.002	<0.01	0.009	0.005	0.008	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW268	0906_MW268_240206	06 Feb 2025	Cowra	ES2503757	ES2503757028	Normal	<0.01	0.005	0.004	0.026	<0.002	<0.002	<0.002	<0.01	0.003	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW311	0906_MW311_250207	07 Feb 2025	Cowra	ES2503757	ES2503757041	Normal	0.01	0.056	0.088	0.800	0.002	0.002	<0.002	<0.01	<0.002	0.022	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.027	<0.005	<0.005
MW204	0906_MW204_250226	26 Feb 2025	Upper Lachlan	ES2506603	ES2506603001	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW238	0906_MW238_250226	26 Feb 2025	Upper Lachlan	ES2506554	ES2506554001	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.036	<0.005	<0.005
MW242	0906_MW242_250228	28 Feb 2025	Upper Lachlan	ES2506583	ES2506583002	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.012	<0.005	<0.005
	0906_QC101_250228	28 Feb 2025	Upper Lachlan	ES2506583	ES2506583003	Field_D	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.010	<0.005	<0.005
MW243	0906_MW243_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757036	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW246	0906_MW246_250207	07 Feb 2025	Upper Lachlan	ES2503757	ES2503757040	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW247	0906_MW247_250225	25 Feb 2025	Upper Lachlan	ES2506594	ES2506594008	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW249	0906_MW249_250225	25 Feb 2025	Upper Lachlan	ES2506606	ES2506606001	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW252	0906_MW252_250227	27 Feb 2025	Upper Lachlan	ES2506606	ES2506606005	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.006	<0.005	<0.005
MW255	0906_MW255_250228	28 Feb 2025	Upper Lachlan	ES2506594	ES2506594013	Normal	<0.01	0.006	0.006	0.043	<0.002	0.019	<0.002	<0.01	0.006	0.015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.006	<0.005	<0.005
MW258	0906_MW258_250205	05 Feb 2025	Upper Lachlan	ES2503757	ES2503757018	Normal	<0.01	0.004	0.006	0.037	<0.002	0.014	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
	0906_QC101_250205	05 Feb 2025	Upper Lachlan	ES2503757	ES2503757019	Field_D	<0.01	0.003	0.008	0.040	<0.002	0.014	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW263	0906_MW263_250205	05 Feb 2025	Upper Lachlan	ES2503757	ES2503757014	Normal	0.02	0.050	0.055	0.237	<0.002	0.016	<0.002	0.05	0.032	0.072	0.019	0.009	0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW266	0906_MW266_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757026	Normal	<0.01	<0.002	<0.002	0.013	<0.002	0.008	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.022	<0.005	<0.005
MW269	0906_MW269_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757029	Normal	<0.01	0.012	0.014	0.126	0.006	0.038	<0.002	<0.01	0.006	0.026	0.004	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW300	0906_MW300_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757034	Normal	0.02	0.056	0.023	0.083	<0.002	0.007	<0.002	<0.01	0.017	0.043	0.004	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
	0906_QC101_250206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757035	Field_D	0.02	0.071	0.030	0.101	<0.002	0.008	<0.002	<0.01	0.016	0.050	0.005	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW302	0906_MW302_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757033	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW304	0906_MW304_250227	27 Feb 2025	Upper Lachlan	ES2506606	ES2506606006	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW306	0906_MW306_250228	28 Feb 2025	Upper Lachlan	ES2506586	ES2506586001	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.01	0.011	0.005	0.012	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.022	<0.005	<0.005
MW308	0906_MW308_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757032	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW310	0906_MW310_250207	07 Feb 2025	Upper Lachlan	ES2503757	ES2503757042	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.055	<0.005	<0.005
	0906_MW312_250226	26 Feb 2025	Upper Lachlan	ES2506593	ES2506593001	Normal	<0.01	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.007	<0.005	<0.005
MW312	0906_QC103_250226	26 Feb 2025	Upper Lachlan	ES2506593	ES2506593002	Field_D	<0.01	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.016	<0.005	<0.005
MW244	0906_MW244_250225	25 Feb 2025	Lower Lachlan	ES2506594	ES2506594005	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW253	0906_MW253_250106	06 Feb 2025	Lower Lachlan	ES2503757	ES2503757038	Normal	<0.01	0.002	0.004	0.026	<0.002	0.015	<0.002	<0.01	<0.002	0.004	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW261	0906_MW261_250205	05 Feb 2025	Lower Lachlan	ES2503757	ES2503757016	Normal	<0.01	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW264	0906_MW264_250205	05 Feb 2025	Lower Lachlan	ES2503757	ES2503757015	Normal	<0.01	<0.002	<0.002	0.016	<0.002	0.005	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW267	0906_MW267_240206	06 Feb 2025	Lower Lachlan	ES2503757	ES2503757027	Normal	<0.01	0.003	0.003	0.023	<0.002	0.014	<0.002	<0.01	0.005	0.006	0.003	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW270	0906_MW270_240206	06 Feb 2025	Lower Lachlan	ES2503757	ES2503757030	Normal	<0.01	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW233	0906_MW233_250204	04 Feb 2025	Encased - Cowra	ES2503757	ES2503757008	Normal	0.01	0.029	0.039	0.280	0.009	0.221	<0.002	<0.01	0.015	0.055	0.006	0.008	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW241	0906_MW241_250228	28 Feb 2025	Wantabadgery Granite	ES2506583	ES2506583001	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	0.112	<0.005	<0.005
MW200	0906_MW200_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757007	Normal	0.06	0.135	0.182	1.00	0.031	0.294	<0.002	0.06	0.058	0.211	0.025	0.029	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW209	0906_MW209_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757005	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW211	0906_MW211_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757009	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW212	0906_MW212_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757010	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW213	0906_MW213_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757011	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW214	0906_MW214_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757020	Normal	<0.01	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW231	0906_MW231_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757006	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
MW260	0906_MW260_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757004	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005

Comments
#1 Refer to Table 10.6 in NHMRC Australian Drinking Water Guidelines (2025) for comments and notes
#2 Refer to table 8 in PFAS NEMP 2025 for comments and notes

Environmental Standards
NHMRC, June 2025, National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, version 4
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water

							PFAS - Perfluoroalkyl Sulfonamides							PFAS			
							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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL							0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
NHMRC 2025 Drinking Water Guideline Values																	
PFAS NEMP 2020 Freshwater 95%																	
PFAS NEMP 2020 Recreational Water														2			
Location Code	Field ID	Date	Formation	Lab Report Number	Sample Code	Sample Type											
MW239	0906_MW239_250226	26 Feb 2025	Cowra	ES2506554	ES2506554002	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW240	0906_MW240_250228	28 Feb 2025	Cowra	ES2506594	ES2506594012	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.121	0.183	<0.005	0.202
MW245	0906_MW245_250225	25 Feb 2025	Cowra	ES2506594	ES2506594006	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.006	0.009	<0.005	0.009
	0906_QC101_250225	25 Feb 2025	Cowra	ES2506594	ES2506594007	Field_D	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.008	<0.005	0.008
MW248	0906_MW248_250225	25 Feb 2025	Cowra	ES2506594	ES2506594009	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.313	0.559	<0.005	0.615
MW250	0906_MW250_250225	25 Feb 2025	Cowra	ES2506594	ES2506594010	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.040	0.181	<0.005	0.184
MW251	0906_MW251_250227	27 Feb 2025	Cowra	ES2506606	ES2506606004	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW254	0906_MW254_250106	06 Feb 2025	Cowra	ES2503757	ES2503757039	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.303	0.722	<0.005	0.756
MW256	0906_MW256_250228	28 Feb 2025	Cowra	ES2506594	ES2506594014	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.131	0.200	<0.005	0.225
MW257	0906_MW257_250228	28 Feb 2025	Cowra	ES2506594	ES2506594015	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW259	0906_MW259_250205	05 Feb 2025	Cowra	ES2503757	ES2503757017	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.125	0.249	<0.005	0.259
MW262	0906_MW262_250205	05 Feb 2025	Cowra	ES2503757	ES2503757013	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	1.19	2.03	<0.005	2.45
MW265	0906_MW265_240206	06 Feb 2025	Cowra	ES2503757	ES2503757025	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.036	0.064	<0.005	0.067
MW268	0906_MW268_240206	06 Feb 2025	Cowra	ES2503757	ES2503757028	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.026	0.041	<0.005	0.045
MW311	0906_MW311_250207	07 Feb 2025	Cowra	ES2503757	ES2503757041	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.802	0.910	<0.005	1.01
MW204	0906_MW204_250226	26 Feb 2025	Upper Lachlan	ES2506603	ES2506603001	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW238	0906_MW238_250226	26 Feb 2025	Upper Lachlan	ES2506554	ES2506554001	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.036	<0.005	0.036
MW242	0906_MW242_250228	28 Feb 2025	Upper Lachlan	ES2506583	ES2506583002	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.012	<0.005	0.012
	0906_QC101_250228	28 Feb 2025	Upper Lachlan	ES2506583	ES2506583003	Field_D	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.010	<0.005	0.010
MW243	0906_MW243_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757036	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW246	0906_MW246_250207	07 Feb 2025	Upper Lachlan	ES2503757	ES2503757040	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW247	0906_MW247_250225	25 Feb 2025	Upper Lachlan	ES2506594	ES2506594008	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW249	0906_MW249_250225	25 Feb 2025	Upper Lachlan	ES2506606	ES2506606001	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW252	0906_MW252_250227	27 Feb 2025	Upper Lachlan	ES2506606	ES2506606005	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.006	<0.005	0.006
MW255	0906_MW255_250228	28 Feb 2025	Upper Lachlan	ES2506594	ES2506594013	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.062	0.095	<0.005	0.101
MW258	0906_MW258_250205	05 Feb 2025	Upper Lachlan	ES2503757	ES2503757018	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.051	0.055	<0.005	0.065
	0906_QC101_250205	05 Feb 2025	Upper Lachlan	ES2503757	ES2503757019	Field_D	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.054	0.057	<0.005	0.069
MW263	0906_MW263_250205	05 Feb 2025	Upper Lachlan	ES2503757	ES2503757014	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.253	0.485	<0.005	0.562
MW266	0906_MW266_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757026	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.021	0.043	<0.005	0.043
MW269	0906_MW269_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757029	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.164	0.219	<0.005	0.239
MW300	0906_MW300_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757034	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.090	0.212	<0.005	0.255
	0906_QC101_250206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757035	Field_D	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.109	0.254	<0.005	0.304
MW302	0906_MW302_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757033	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW304	0906_MW304_250227	27 Feb 2025	Upper Lachlan	ES2506606	ES2506606006	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW306	0906_MW306_250228	28 Feb 2025	Upper Lachlan	ES2506586	ES2506586001	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.002	0.052	<0.005	0.052
MW308	0906_MW308_240206	06 Feb 2025	Upper Lachlan	ES2503757	ES2503757032	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW310	0906_MW310_250207	07 Feb 2025	Upper Lachlan	ES2503757	ES2503757042	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.055	<0.005	0.055
	0906_MW312_250226	26 Feb 2025	Upper Lachlan	ES2506593	ES2506593001	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.005	0.012	<0.005	0.012
MW312	0906_QC103_250226	26 Feb 2025	Upper Lachlan	ES2506593	ES2506593002	Field_D	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.005	0.021	<0.005	0.021
MW244	0906_MW244_250225	25 Feb 2025	Lower Lachlan	ES2506594	ES2506594005	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.003	0.003	<0.005	0.003
MW253	0906_MW253_250106	06 Feb 2025	Lower Lachlan	ES2503757	ES2503757038	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.041	0.050	<0.005	0.054
MW261	0906_MW261_250205	05 Feb 2025	Lower Lachlan	ES2503757	ES2503757016	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW264	0906_MW264_250205	05 Feb 2025	Lower Lachlan	ES2503757	ES2503757015	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.021	0.021	<0.005	0.021
MW267	0906_MW267_240206	06 Feb 2025	Lower Lachlan	ES2503757	ES2503757027	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.037	0.058	<0.005	0.061
MW270	0906_MW270_240206	06 Feb 2025	Lower Lachlan	ES2503757	ES2503757030	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW233	0906_MW233_250204	04 Feb 2025	Encased - Cowra	ES2503757	ES2503757008	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.501	0.614	<0.005	0.672
MW241	0906_MW241_250228	28 Feb 2025	Wantabadgery Granite	ES2506583	ES2506583001	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	0.112	<0.005	0.112
MW200	0906_MW200_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757007	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	1.29	1.81	<0.005	2.08
MW209	0906_MW209_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757005	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW211	0906_MW211_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757009	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW212	0906_MW212_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757010	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW213	0906_MW213_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757011	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW214	0906_MW214_250205	05 Feb 2025	Encased - Lachlan	ES2503757	ES2503757020	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.004	0.004	<0.005	0.004
MW231	0906_MW231_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757006	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
MW260	0906_MW260_250204	04 Feb 2025	Encased - Lachlan	ES2503757	ES2503757004	Normal	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002

Comments
#1 Refer to Table 10.6 in NHMRC Australian Drinking Water Guidelines (2025) for comments and notes
#2 Refer to table 8 in PFAS NEMP 2025 for comments and notes

Environmental Standards
NHMRC, June 2025, National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, version 4
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water

Jacobs

Data Table B-2. Screening Summary - Surface Water Results

OMP - Holsworthy, Kapooka and Wagga
RAAF Base Wagga

	PFAS - Perfluoroalkyl Sulfonic Acids								PFAS - Perfluoroalkyl Carboxylic Acids											PFAS - (n:2) Fluorotelomer Sulfonic Acids			
	Perfluoropropane sulfonic acid (PPrS)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorononanesulfonic acid (PFNS)	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)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.01	0.002	0.002	0.002	0.002	0.002	0.02	0.002	0.01	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005
PFAS NEMP 2020 Drinking Water		1[#1]		0.03[#1]		0.008[#1]							0.2[#1]											
PFAS NEMP 2020 Freshwater 95%						0.13							220											
PFAS NEMP 2020 Recreational Water													10											
SW234	0906_SW234_250204	04 Feb 2025	ES2503757	ES2503757003	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW309	0906_SW309_250205	05 Feb 2025	ES2503757	ES2503757012	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW311	0906_SW311_250205	05 Feb 2025	ES2503757	ES2503757021	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW262	0906_SW262_250206	06 Feb 2025	ES2503757	ES2503757031	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW288	0906_SW288_250226	26 Feb 2025	ES2506594	ES2506594001	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW289	0906_SW289_250226	26 Feb 2025	ES2506594	ES2506594002	Normal	<0.02	<0.02	<0.02	0.20	<0.02	0.62	<0.02	<0.02	<0.1	0.05	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
	0906_QC102_250226	26 Feb 2025	ES2506594	ES2506594003	Field_D	<0.02	<0.02	<0.02	0.21	<0.02	0.67	<0.02	<0.02	<0.1	0.05	0.06	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW228	0906_SW228_250226	26 Feb 2025	ES2506594	ES2506594004	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW212	0906_SW212_250226	26 Feb 2025	ES2506594	ES2506594011	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW104	0906_SW104_250227	27 Feb 2025	ES2506606	ES2506606009	Normal	<0.02	0.05	0.05	0.61	0.02	0.55	<0.02	<0.02	<0.1	<0.02	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW206	0906_SW206_250227	27 Feb 2025	ES2506606	ES2506606010	Normal	<0.01	0.010	0.009	0.095	0.005	0.125	-	<0.002	<0.01	<0.002	0.013	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW310	0906_SW310_250228	28 Feb 2025	ES2506606	ES2506606013	Normal	<0.02	<0.02	<0.02	0.09	<0.02	0.40	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW218	0906_SW218_250227	27 Feb 2025	ES2506606	ES2506606014	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW261	0906_SW261_250227	27 Feb 2025	ES2506606	ES2506606015	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005
SW294	0906_SW294_250227	27 Feb 2025	ES2506606	ES2506606016	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW236	0906_SW236_250226	26 Feb 2025	ES2506606	ES2506606017	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
	0906_QC101_250226	26 Feb 2025	ES2506606	ES2506606020	Field_D	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW240	0906_SW240_250226	26 Feb 2025	ES2506606	ES2506606018	Normal	<0.02	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
SW286	0906_SW286_250226	26 Feb 2025	ES2506606	ES2506606019	Normal	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005

Comments
#1 Refer to Table 10.6 in NHMRC Australian Drinking Water Guidelines (2025) for comments and notes
#2 Refer to Table 8 in PFAS NEMP 2025 for comments and notes

Environmental Standards
NHMRC, June 2025, National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, version 4
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water

						PFAS - Perfluoroalkyl Sulfonamides								PFAS			
						Perfluoropropane sulfonic acid (PFPrS)	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)	Perfluorohexadecanoic acid (PFHxDA)	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
EQL						0.01	0.002	0.005	0.002	0.005	0.005	0.002	0.005	0.002	0.002	0.005	0.002
PFAS NEMP 2020 Drinking Water																	
PFAS NEMP 2020 Freshwater 95%																	
PFAS NEMP 2020 Recreational Water														2			
Location Code	Field ID	Date	Lab Report Number	Sample Code	Sample Type												
SW234	0906_SW234_250204	04 Feb 2025	ES2503757	ES2503757003	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW309	0906_SW309_250205	05 Feb 2025	ES2503757	ES2503757012	Normal	<0.01	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW311	0906_SW311_250205	05 Feb 2025	ES2503757	ES2503757021	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW262	0906_SW262_250206	06 Feb 2025	ES2503757	ES2503757031	Normal	<0.01	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW288	0906_SW288_250226	26 Feb 2025	ES2506594	ES2506594001	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02	<0.05	0.02
SW289	0906_SW289_250226	26 Feb 2025	ES2506594	ES2506594002	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.82	0.94	<0.05	0.94
	0906_QC102_250226	26 Feb 2025	ES2506594	ES2506594003	Field_D	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.88	1.00	<0.05	1.00
SW228	0906_SW228_250226	26 Feb 2025	ES2506594	ES2506594004	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW212	0906_SW212_250226	26 Feb 2025	ES2506594	ES2506594011	Normal	<0.01	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW104	0906_SW104_250227	27 Feb 2025	ES2506606	ES2506606009	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.16	1.32	<0.05	1.39
SW206	0906_SW206_250227	27 Feb 2025	ES2506606	ES2506606010	Normal	<0.01	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	0.220	0.246	<0.005	0.260
SW310	0906_SW310_250228	28 Feb 2025	ES2506606	ES2506606013	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.49	0.49	<0.05	0.49
SW218	0906_SW218_250227	27 Feb 2025	ES2506606	ES2506606014	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW261	0906_SW261_250227	27 Feb 2025	ES2506606	ES2506606015	Normal	<0.01	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002
SW294	0906_SW294_250227	27 Feb 2025	ES2506606	ES2506606016	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW236	0906_SW236_250226	26 Feb 2025	ES2506606	ES2506606017	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
	0906_QC101_250226	26 Feb 2025	ES2506606	ES2506606020	Field_D	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW240	0906_SW240_250226	26 Feb 2025	ES2506606	ES2506606018	Normal	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01	<0.05	<0.01
SW286	0906_SW286_250226	26 Feb 2025	ES2506606	ES2506606019	Normal	<0.01	<0.002	<0.005	<0.002	<0.005	<0.005	<0.002	<0.005	<0.002	<0.002	<0.005	<0.002

Comments
#1 Refer to Table 10.6 in NHMRC Australian Drinking Water Guidelines (2025) for comments and notes
#2 Refer to Table 8 in PFAS NEMP 2025 for comments and notes

Environmental Standards
NHMRC, June 2025, National Water Quality Management Strategy, Australian Drinking Water Guidelines 6, version 4
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Recreational Water

Jacobs

Data Table B 3. Relative Percentage Differences – Water Results

OMP - Holsworthy, Kapooka and Wagga
RAAF Base Wagga

Date			05 Feb 2025	05 Feb 2025		06 Feb 2025	06 Feb 2025		25 Feb 2025	25 Feb 2025		25 Feb 2025		26 Feb 2025	26 Feb 2025		26 Feb 2025		26 Feb 2025	26 Feb 2025		26 Feb 2025	
Field ID			0906_MW258_250205	0906_QC101_250205		0906_MW300_240206	0906_QC101_250206		0906_MW245_250225	0906_QC101_250225		0906_QC201_250225		0906_MW312_250226	0906_QC103_250226		0906_QC203_250226		0906_SW289_250226	0906_QC102_250226		0906_QC202_250226	
Lab Report Number			ES2503757	ES2503757		ES2503757	ES2503757		ES2506594	ES2506594		1196147		ES2506593	ES2506593		1196147		ES2506594	ES2506594		1196147	
Sample Type			Normal	Field_D		Normal	Field_D		Normal	Field_D		Interlab_D		Normal	Field_D		Interlab_D		Normal	Field_D		Interlab_D	
Matrix Type			Water	Water	RPD	Water	Water	RPD	Water	Water	RPD	Water	RPD	Water	Water	RPD	Water	RPD	Water	Water	RPD	Water	RPD
	Unit	LOR																					
Per- and Poly-fluoroalkyl Substances (PFAS)																							
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.001	**0.014**	**0.014**	0	**0.007**	**0.008**	13	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	**0.001**	0	**0.62**	**0.67**	8	**0.50**	21
Perfluorooctanoic acid (PFOA)	µg/L	0.001	<0.002	<0.002	0	**0.002**	**0.003**	40	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	**0.01**	**0.01**	0	**0.01**	0
Perfluorooctanesulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.005	0	<0.002	<0.002	0	<0.005	0	<0.02	<0.02	0	<0.05	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001	**0.006**	**0.008**	29	**0.023**	**0.030**	26	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	**0.01**	0
Perfluoro-n-pentanoic acid (PFPeA)	µg/L	0.001	<0.002	<0.002	0	**0.017**	**0.016**	6	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	**0.05**	**0.05**	0	<0.01	**133**
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001	<0.01	<0.01	0	**0.02**	**0.02**	0	<0.01	<0.01	0	<0.001	0	<0.01	<0.01	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluorononanesulfonic acid (PFNS)	µg/L	0.001	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.001	**0.004**	**0.004**	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.001	<0.002	<0.002	0	**0.043**	**0.050**	15	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	**0.06**	**0.06**	0	**0.06**	0
Perfluorohexanesulfonic acid (PFHxS)	µg/L	0.001	**0.037**	**0.040**	8	**0.083**	**0.101**	20	**0.006**	**0.004**	40	**0.004**	40	**0.005**	**0.005**	0	**0.004**	22	**0.20**	**0.21**	5	**0.18**	11
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001	<0.002	<0.002	0	**0.004**	**0.005**	22	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	-	-	<0.005	<0.005	0	-	-	<0.05	<0.05	0	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	**0.01**	0
Perfluorobutanesulfonic acid (PFBS)	µg/L	0.001	**0.004**	**0.003**	29	**0.056**	**0.071**	24	**0.003**	**0.004**	29	**0.002**	40	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	**0.01**	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.001	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.001	0	<0.005	<0.005	0	<0.001	0	<0.05	<0.05	0	<0.01	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.001	0	<0.002	<0.002	0	<0.001	0	<0.02	<0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.005	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.005	0	<0.01	<0.01	0	<0.005	0	<0.1	<0.1	0	<0.05	0
N-ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSSA)	µg/L	0.002	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.005	0	<0.002	<0.002	0	<0.005	0	<0.02	<0.02	0	<0.05	0
N-ethyl perfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.05	<0.05	0	<0.05	0
N-methyl perfluorooctanesulfonamido ethanol (N-MeFOSE)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.05	<0.05	0	<0.05	0
N-ethyl perfluorooctanesulfonamido ethanol (N-EtFOSE)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.005	<0.005	0	<0.005	0	<0.05	<0.05	0	<0.05	0
N-methyl perfluorooctane sulfonamido acetic acid (N-MeFOSAA)	µg/L	0.002	<0.002	<0.002	0	<0.002	<0.002	0	<0.002	<0.002	0	<0.005	0	<0.002	<0.002	0	<0.005	0	<0.02	<0.02	0	<0.05	0
Sum (PFHxS + PFOS)	µg/L	0.001	**0.051**	**0.054**	6	**0.090**	**0.109**	19	**0.006**	**0.004**	40	**0.004**	40	**0.005**	**0.005**	0	**0.005**	0	**0.82**	**0.88**	7	**0.68**	19
Sum of PFAS	µg/L	0.002	**0.065**	**0.069**	6	**0.255**	**0.304**	18	**0.009**	**0.008**	12	**0.006**	40	**0.012**	**0.021**	**55**	**0.014**	15	**0.94**	**1.00**	6	**0.78**	19
(n:2) Fluorotelomer Sulfonic Acids																							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.001	0	<0.005	<0.005	0	<0.001	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	0	**0.007**	**0.016**	78	**0.009**	25	<0.05	<0.05	0	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.001	0	<0.005	<0.005	0	<0.001	0	<0.05	<0.05	0	<0.01	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001	<0.005	<0.005	0	<0.005	<0.005	0	<0.005	<0.005	0	<0.001	0	<0.005	<0.005	0	<0.001	0	<0.05	<0.05	0	<0.01	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 80 (1 - 10 x EQL); 50 (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**

Date			26 Feb 2025	26 Feb 2025		26 Feb 2025		28 Feb 2025	28 Feb 2025		28 Feb 2025	
Field ID			0906_SW236_250226	0906_QC101_250226		0906_QC201_250226		0906_MW242_250228	0906_QC101_250228		0906_QC201_250228	
Lab Report Number			ES2506606	ES2506606		1196147		ES2506583	ES2506583		1196147	
Sample Type			Normal	Field_D		Interlab_D		Normal	Field_D		Interlab_D	
Matrix Type			Water	Water	RPD	Water	RPD	Water	Water	RPD	Water	RPD
	Unit	LOR										
Per- and Poly-fluoroalkyl Substances (PFAS)												
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.001	<0.01	<0.01	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorooctanoic acid (PFOA)	µg/L	0.001	<0.01	<0.01	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorooctanesulfonamide (PFOSA)	µg/L	0.002	<0.02	<0.02	0	<0.05	0	<0.002	<0.002	0	<0.005	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluoro-n-pentanoic acid (PFPeA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.01	<0.01	0	<0.001	0
Perfluorononanesulfonic acid (PFNS)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	-	-	-	<0.001	-
Perfluorononanoic acid (PFNA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorohexanesulfonic acid (PFHxS)	µg/L	0.001	<0.01	<0.01	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.005	<0.05	<0.05	0	-	-	<0.005	<0.005	0	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorodecanoic acid (PFDA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorobutanesulfonic acid (PFBS)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.001	<0.05	<0.05	0	<0.01	0	<0.005	<0.005	0	<0.001	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.001	<0.02	<0.02	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Perfluorobutanoic acid (PFBA)	µg/L	0.005	<0.1	<0.1	0	<0.05	0	<0.01	<0.01	0	<0.005	0
N-ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSSA)	µg/L	0.002	<0.02	<0.02	0	<0.05	0	<0.002	<0.002	0	<0.005	0
N-ethyl perfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.005	<0.05	<0.05	0	<0.05	0	<0.005	<0.005	0	<0.005	0
N-methyl perfluorooctanesulfonamido ethanol (N-MeFOSE)	µg/L	0.005	<0.05	<0.05	0	<0.05	0	<0.005	<0.005	0	<0.005	0
N-ethyl perfluorooctanesulfonamido ethanol (N-EtFOSE)	µg/L	0.005	<0.05	<0.05	0	<0.05	0	<0.005	<0.005	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.005	<0.05	<0.05	0	<0.05	0	<0.005	<0.005	0	<0.005	0
N-methyl perfluorooctane sulfonamido acetic acid (N-MeFOSAA)	µg/L	0.002	<0.02	<0.02	0	<0.05	0	<0.002	<0.002	0	<0.005	0
Sum (PFHxS + PFOS)	µg/L	0.001	<0.01	<0.01	0	<0.01	0	<0.002	<0.002	0	<0.001	0
Sum of PFAS	µg/L	0.002	<0.01	<0.01	0	<0.1	0	**0.012**	**0.010**	18	**0.008**	40
(n:2) Fluorotelomer Sulfonic Acids												
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.001	<0.05	<0.05	0	<0.01	0	<0.005	<0.005	0	<0.001	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005	<0.05	<0.05	0	<0.05	0	**0.012**	**0.010**	18	**0.008**	40
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.001	<0.05	<0.05	0	<0.01	0	<0.005	<0.005	0	<0.001	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.001	<0.05	<0.05	0	<0.01	0	<0.005	<0.005	0	<0.001	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL**
*****Interlab Duplicates are matched on a per compound basis as methods vary between labc**

Monitoring Round			202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP	202502_Jacobs_WaggaOMP
Date			03 Feb 2025	04 Feb 2025	05 Feb 2025	06 Feb 2025	07 Feb 2025	07 Feb 2025	25 Feb 2025	26 Feb 2025	27 Feb 2025	28 Feb 2025	28 Feb 2025
Field ID			0906_QC301_250203	0906_QC301_250204	0906_QC301_250205	0906_QC301_250206	0906_QC301_250207	0906_QC501_250207	0906_QC301_250225	0906_QC301_250226	0906_QC301_250227	0906_QC301_250228	0906_QC501_250228
Lab Report Number			ES2503757	ES2503757	ES2503757	ES2503757	ES2503757	ES2503757	ES2506606	ES2506606	ES2506606	ES2506606	ES2506606
Sample Type			Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip_B	Rinsate	Rinsate	Rinsate	Rinsate	Trip_B
Matrix Type			Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
	Unit	LOR											
Per- and Poly-fluoroalkyl Substances (PFAS)													
Perfluorooctanesulfonic acid (PFOS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid (PFOA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonamide (PFOSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluoro-n-pentanoic acid (PFPeA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanesulfonic acid (PFHxS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexadecanoic acid (PFHxDA)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluorobutanesulfonic acid (PFBS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
N-ethyl perfluorooctane sulfonamido acetic acid (N-EtFOSSA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
N-ethyl perfluorooctane sulfonamide (N-EtFOSA)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-
N-methyl perfluorooctanesulfonamido ethanol (N-MeFOSE)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-
N-ethyl perfluorooctanesulfonamido ethanol (N-EtFOSE)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (N-MeFOSA)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-
N-methyl perfluorooctane sulfonamido acetic acid (N-MeFOSAA)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	-	-	-	-
Sum (PFHxS + PFOS)	µg/L	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS	µg/L	0.002	<0.002	<0.002	0.006	<0.002	<0.002	<0.002	-	-	-	-	-
(n:2) Fluorotelomer Sulfonic Acids													
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	<0.05	<0.05	<0.05

Appendix C. QA/QC Report

This data quality appraisal is of data collected as part of the scope of works presented in this report in accordance with the SAQP (Jacobs, 2025a).

Table C-1. QA/QC review for ES2503757

Project and Data Details								
Project number	IS41900			Client		Department of Defence		
Site	RAAF Base Wagga			Laboratory report number		ES2503757		
Validated by	BG			Matrix type/s		Water		
Validation date	17/03/2025			Primary laboratory		ALS		
Sampling date range	3/02/25 to 7/02/25			Secondary laboratory		N/A		
Primary Samples		Duplicate Samples				Triplicate Samples		
0906_MW258_250205 0906_MW300_240206		0906_QC101_250205, 0906_QC101_250206				Missing – lost in transit		
Rinsate Samples				Trip Blank Samples				
0906_QC301_250203, 0906_QC301_250204, 0906_QC301_250205, 0906_QC301_250206, 0906_QC301_250207				0906_QC501_250207				
Field QAQC	Yes	No	NA		Yes	No	NA	
Correct sample naming on COC?	☒	☐	☐	Were field blank/s collected?	☒	☐	☐	
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☒	☐	☐	
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☒	☐	☐	
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☐	☒	☐	
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☒	☐	☐	
All samples received intact and within acceptable temp. range?	☒	☐	☐	Do duplicate results meet criteria?	☐	☒	☐	
Laboratory QAQC	Yes	No	NA		Yes	No	NA	
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐	
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐	
Is internal laboratory QAQC frequency adequate?	☐	☒	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐	
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐	
Are all results below LOR for method blanks?	☒	☐	☐					
Acronyms								
COA – Certificate of analysis		LCS – Laboratory control spike		RPD – Relative percentage difference				
COC – Chain of custody		LOR – Limit of reporting		SAQP – Sample analysis quality plan				
EDD – Electronic data deliverable		MS – Matrix spike		SRN – Service recipient notice				
Comments								
Sample Receipt								

The ALS SRN/COC notes samples were received in cooler with ice, with temperature (22.5, 22.7 and 21.8C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study.

Rinsate blanks

Blank sample results are presented in Table B-4. Sample QC301_250205 reported a 6:2 Fluorotelomer sulfonic acid (6:2 FTS) concentration of 0.006 µg/L; above the LOR of <0.005 µg/L. The source of the 6:2 FTS detection within the rinsate blank is not clear, however the rinsate water could potentially have been cross-contaminated. Regardless, this detection is considered unlikely to have impacted results, as primary samples collected on the same date as this field blank all reported concentration of 6:2 FTS below the LOR.

Field Duplicates

The RPDs of the field duplicate are presented in Table B-3. No RPD outliers were reported. The RPD's of the duplicate samples are considered to be appropriate for the current investigation.

Triplicate samples were lost in transit and were unable to be analysed. While it is noted that this reduces the frequency of triplicates collected and analysed below the Data Acceptance Criteria specified within the SAQP, it is noted that the NEPM recommends a minimum of 1 in 20 duplicate/triplicate samples. It is therefore considered that the triplicates samples that were lost in transit and were unable to be analysed would not materially impact the results, and the results within the investigation are appropriate for use.

Laboratory Internal QA/QC

ALS indicated it did not analyse the expected number of PFAS laboratory duplicates or any PFAS matrix spikes within this batch. There were some laboratory duplicates analysed using solid phase extraction LC-MS/MS method; and ALS indicated that matrix spike results were required to be reported under their NATA certified procedures. The change in method is not considered to materially impact the results reported.

The analytical data provided within report ES2503757 is considered acceptable and appropriate for use in this investigation.

Table C-2. QA/QC review for ES2506554

Project and Data Details			
Project number	IS41900	Client	Department of Defence
Site	RAAF Base Wagga	Laboratory report number	ES2506554
Validated by	BG	Matrix type/s	Water
Validation date	17/03/2025	Primary laboratory	ALS
Sampling date range	26/02/25	Secondary laboratory	N/A

Primary Samples	Duplicate Samples	Triplicate Samples
nil	nil	nil

Rinsate Samples	Trip Blank Samples
nil	nil

Field QAQC	Yes	No	NA		Yes	No	NA
Correct sample naming on COC?	☒	☐	☐	Were field blank/s collected?	☐	☐	☒
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☐	☐	☒
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☐	☐	☒
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☐	☐	☒
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☐	☐	☒
All samples received intact and within acceptable temp. range?	☒	☐	☐	Do duplicate results meet criteria?	☐	☐	☒
Laboratory QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				

Acronyms

COA – Certificate of analysis	LCS – Laboratory control spike	RPD – Relative percentage difference
COC – Chain of custody	LOR – Limit of reporting	SAQP – Sample analysis quality plan
EDD – Electronic data deliverable	MS – Matrix spike	SRN – Service recipient notice

Comments

Sample Receipt

The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study.

Field QA/QC

Only two samples were analysed in this batch, from a private property. For rinsates, trip blanks and duplicate/triplicate assessment refer to QA/QC review of batch ES2506606 in Table C-8 that were also collected on 26/2/25.

Laboratory Internal QA/QC

No internal laboratory QAQC outliers were reported.

The analytical data provided within report ES2506554 are considered acceptable and appropriate for use in this investigation.

Table C-3. QA/QC review for ES2506583 and 1196147

Project and Data Details			
Project number	IS41900	Client	Department of Defence
Site	RAAF Base Wagga	Laboratory report number	ES2506583, 1196147
Validated by	BG	Matrix type/s	Water
Validation date	17/03/2025	Primary laboratory	ALS
Sampling date range	28/02/25	Secondary laboratory	Eurofins

Primary Samples	Duplicate Samples	Triplicate Samples
0906_MW242_250228	0906_QC101_250228	0906_QC201_250228

Rinsate Samples	Trip Blank Samples
nil	nil

Field QAQC	Yes	No	NA		Yes	No	NA
Correct sample naming on COC?	☒	☐	☐	Were field blank/s collected?	☒	☐	☐
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☒	☐	☐
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☒	☐	☐
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☒	☐	☐
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☒	☐	☐
All samples received intact and within acceptable temp. range?	☐	☒	☐	Do duplicate results meet criteria?	☒	☐	☐
Laboratory QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				

Acronyms

COA – Certificate of analysis	LCS – Laboratory control spike	RPD – Relative percentage difference
COC – Chain of custody	LOR – Limit of reporting	SAQP – Sample analysis quality plan
EDD – Electronic data deliverable	MS – Matrix spike	SRN – Service recipient notice

Comments

Sample Receipt

The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study.

Field QA/QC

Only two primary samples were analysed in this batch, from a private property. For rinsates, trip blanks and duplicate/triplicate assessment refer to QA/QC review of batch ES2506606 in Table C-8 that were also collected on 28/2/25.

Laboratory Internal QA/QC

No internal laboratory QAQC outliers were reported.

The analytical data provided within report ES2506586 and 1196147 are considered acceptable and appropriate for use in this investigation.

Table C-4. QA/QC review for ES2506586

Project and Data Details			
Project number	IS41900	Client	Department of Defence
Site	RAAF Base Wagga	Laboratory report number	ES2506586
Validated by	BG	Matrix type/s	Water
Validation date	17/03/2025	Primary laboratory	ALS
Sampling date range	26/02/25 to 28/02/25	Secondary laboratory	Eurofins

Primary Samples	Duplicate Samples	Triplicate Samples
nil	nil	nil

Rinsate Samples	Trip Blank Samples
nil	nil

Field QAQC	Yes	No	NA		Yes	No	NA
Correct sample naming on COC?	☒	☐	☐	Were field blank/s collected?	☐	☐	☒
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☐	☐	☒
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☐	☐	☒
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☐	☐	☒
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☐	☐	☒
All samples received intact and within acceptable temp. range?	☐	☒	☐	Do duplicate results meet criteria?	☐	☐	☒
Laboratory QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				

Acronyms

COA – Certificate of analysis	LCS – Laboratory control spike	RPD – Relative percentage difference
COC – Chain of custody	LOR – Limit of reporting	SAQP – Sample analysis quality plan
EDD – Electronic data deliverable	MS – Matrix spike	SRN – Service recipient notice

Comments

Sample Receipt

The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study.

Field QA/QC
Only one primary samples was analysed in this batch, from a private property. For rinsates, trip blanks and duplicate/triplicate assessment refer to QA/QC review of batch ES2506606 in Table C-8 that were also collected on 28/2/25.

Laboratory Internal QA/QC
No internal laboratory QAQC outliers were reported.

The analytical data provided within report ES2506586 is considered acceptable and appropriate for use in this investigation.

Table C-5. QA/QC review for ES2506593 and 1196147

Project and Data Details							
Project number	IS41900			Client	Department of Defence		
Site	RAAF Base Wagga			Laboratory report number	ES2506593, 1196147		
Validated by	BG			Matrix type/s	Water		
Validation date	17/03/2025			Primary laboratory	ALS		
Sampling date range	26/02/25			Secondary laboratory	Eurofins		
Primary Samples		**Duplicate Samples**		**Triplicate Samples**			
0906_MW312_250226		0906_QC103_250226		0906_QC203_250226			
Rinsate Samples				**Trip Blank Samples**			
nil				nil			
Field QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Correct sample naming on COC?	☒	☐	☐	Were field blank/s collected?	☐	☐	☒
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☐	☐	☒
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☒	☐	☐
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☐	☐	☒
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☐	☐	☒
All samples received intact and within acceptable temp. range?	☐	☒	☐	Do duplicate results meet criteria?	☒	☐	☐
Laboratory QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				

Acronyms

COA – Certificate of analysis	LCS – Laboratory control spike	RPD – Relative percentage difference
COC – Chain of custody	LOR – Limit of reporting	SAQP – Sample analysis quality plan
EDD – Electronic data deliverable	MS – Matrix spike	SRN – Service recipient notice

Comments

Sample Receipt

The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study.

Field QA/QC

Only one primary (and duplicate/triplicate) sample was analysed in this batch, from a private property. For rinsates and trip refer to QA/QC review of batch ES2506606 in Table C-8 that were also collected on 26/2/25.

Laboratory Internal QA/QC

No internal laboratory QAQC outliers were reported.

The analytical data provided within report ES2506593 and 1196147 are considered acceptable and appropriate for use in this investigation.

Table C-6. QA/QC review for ES2506594 and 1196147

Project and Data Details							
Project number	IS41900			Client	Department of Defence		
Site	RAAF Base Wagga			Laboratory report number	ES2506594,1196147		
Validated by	BG			Matrix type/s	Water		
Validation date	17/03/2025			Primary laboratory	ALS		
Sampling date range	25/02/25 to 28/02/2025			Secondary laboratory	Eurofins		
Primary Samples		**Duplicate Samples**		**Triplicate Samples**			
0906_MW245_250225 0906_SW289_250226		0906_QC101_250225 0906_QC102_250226		0906_QC201_250225 0906_QC202_250226			
Rinsate Samples				**Trip Blank Samples**			
nil				nil			
Field QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Correct sample naming on COC?	☐	☒	☐	Were field blank/s collected?	☐	☐	☒
Correct sample naming in laboratory SRN?	☐	☐	☐	Trip blank/s collected?	☐	☐	☒
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☒	☐	☐
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☐	☐	☒
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☐	☐	☒
All samples received intact and within acceptable temp. range?	☐	☒	☐	Do duplicate results meet criteria?	☐	☒	☐
Laboratory QAQC	**Yes**	**No**	**NA**		**Yes**	**No**	**NA**
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				

Acronyms		
COA – Certificate of analysis	LCS – Laboratory control spike	RPD – Relative percentage difference
COC – Chain of custody	LOR – Limit of reporting	SAQP – Sample analysis quality plan
EDD – Electronic data deliverable	MS – Matrix spike	SRN – Service recipient notice

Comments
Sample Receipt The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study. Some simple sample ID errors between labels and the COC were identified and resolved. Field QA/QC Thirteen primary (and duplicate/triplicate) samples were analysed in this batch, from properties owned by the same organisation. For rinsates and trip blank assessments refer to QA/QC review of batch ES2506606 in Table C-8 that were also collected on 25/2/25 and 28/2/25. Field Duplicates The RPDs of the field duplicate/triplicates are presented in Table B-3. The RPD results were within data quality criteria except for the following samples: ▪ Perfluoro-n-pentanoic acid (PFPeA) (RPD of 133%) between SW289_250226 and QC202_250226 The exceedance of the RPDs in the above samples are considered to be a result of the relatively low concentrations of the compounds reported in the samples. As a conservative measure, the highest reported concentration of each constituent at each location will be considered when interpreting the results of the investigation, which are all below the site assessment criteria. Laboratory Internal QA/QC ALS indicated it did not analyse any PFAS laboratory duplicates or matrix spikes within this batch using the standard EP231X method; however ALS were able to conduct an appropriate amount of laboratory duplicates and matrix spikes using EP231X-LL method that follows the same procedures but at lower detection levels. The change in method is not considered to materially impact the results reported.
The analytical data provided within reports ES2506594 and 1196147 are considered acceptable and appropriate for use in this investigation.

Table C-7. QA/QC review for ES2506603

Project and Data Details							
Project number	IS41900			Client	Department of Defence		
Site	RAAF Base Wagga			Laboratory report number	ES2506603		
Validated by	BG			Matrix type/s	Water		
Validation date	17/03/2025			Primary laboratory	ALS		
Sampling date range	26/02/25			Secondary laboratory	Eurofins		
Primary Samples		Duplicate Samples		Triplicate Samples			
Nil		Nil		Nil			
Rinsate Samples				Trip Blank Samples			
Nil				Nil			
Field QAQC	Yes	No	NA		Yes	No	NA
Correct sample naming on COC?	☐	☒	☐	Were field blank/s collected?	☐	☐	☒
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☐	☐	☒
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☐	☐	☒
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☐	☐	☒
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☐	☐	☒
All samples received intact and within acceptable temp. range?	☐	☒	☐	Do duplicate results meet criteria?	☐	☐	☒
Laboratory QAQC	Yes	No	NA		Yes	No	NA
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				
Acronyms							
COA – Certificate of analysis		LCS – Laboratory control spike		RPD – Relative percentage difference			
COC – Chain of custody		LOR – Limit of reporting		SAQP – Sample analysis quality plan			
EDD – Electronic data deliverable		MS – Matrix spike		SRN – Service recipient notice			

Comments
Sample Receipt The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study. Field QA/QC Only one primary (and duplicate/triplicate) sample was analysed in this batch, from a private property. For rinsates and trip refer to QA/QC review of batch ES2506606 in Table C-8 that were also collected on 26/2/25. Laboratory Internal QA/QC No internal laboratory QAQC outliers were reported.
The analytical data provided within reports ES2506603 is considered acceptable and appropriate for use in this investigation.

Table C-8. QA/QC review for ES2506606

Project and Data Details							
Project number	IS41900			Client	Department of Defence		
Site	RAAF Base Wagga			Laboratory report number	ES2506606,1196147		
Validated by	BG			Matrix type/s	Water		
Validation date	17/03/2025			Primary laboratory	ALS		
Sampling date range	25/02/25 to 28/02/2025			Secondary laboratory	Eurofins		
Primary Samples		Duplicate Samples		Triplicate Samples			
0906_SW236_250226		0906_QC102_250226		0906_QC202_250226			
Rinsate Samples				Trip Blank Samples			
0906_QC301_250225, 0906_QC301_250226, 0906_QC301_250227, 0906_QC301_250228				0906_QC501_250228			
Field QAQC	Yes	No	NA		Yes	No	NA
Correct sample naming on COC?	☒	☐	☐	Were field blank/s collected?	☒	☐	☐
Correct sample naming in laboratory SRN?	☒	☐	☐	Trip blank/s collected?	☒	☐	☐
Do the requested limits of reporting match the project SAQP?	☒	☐	☐	Intra and inter laboratory duplicate/s?	☒	☐	☐
Analysis on COC correct compared to project SAQP?	☒	☐	☐	Do field blank/s results meet criteria?	☒	☐	☐
Analysis on SRN correct as compared to COC?	☒	☐	☐	Do trip blank/s results meet criteria?	☒	☐	☐
All samples received intact and within acceptable temp. range?	☐	☒	☐	Do duplicate results meet criteria?	☐	☒	☐
Laboratory QAQC	Yes	No	NA		Yes	No	NA
Do samples meet analysis holding times?	☒	☐	☐	Are laboratory duplicate RPDs < 30%?	☒	☐	☐
Do analytes reported in COA match SRN?	☒	☐	☐	Are LCS/standards within laboratory specified ranges?	☒	☐	☐
Is internal laboratory QAQC frequency adequate?	☒	☐	☐	Are laboratory MS recoveries within laboratory specified ranges?	☒	☐	☐
Do lab reports and EDD match?	☒	☐	☐	Are surrogate spikes recoveries within laboratory specified ranges?	☒	☐	☐
Are all results below LOR for method blanks?	☒	☐	☐				
Acronyms							
COA – Certificate of analysis		LCS – Laboratory control spike		RPD – Relative percentage difference			
COC – Chain of custody		LOR – Limit of reporting		SAQP – Sample analysis quality plan			
EDD – Electronic data deliverable		MS – Matrix spike		SRN – Service recipient notice			

Comments
Sample Receipt The ALS SRN/COC notes samples were received in cooler with ice, with temperature (10.8,12.3C) outside of the NEPM recommended 6°C. Samples were collected and freighted from Wagga to the ALS laboratory and only marginally exceeded the recommended temperature. The recommended temperature under NEPM also generally applies to analysis of volatiles and is unlikely to impact PFAS. Therefore the temperatures upon delivery are considered acceptable for the purposes of the study. Laboratory Internal QA/QC ALS indicated it did not analyse any PFAS laboratory duplicates or matrix spikes within this batch using the standard EP231X method; however ALS were able to conduct an appropriate amount of laboratory duplicates and matrix spikes using EP231X-LL method that follows the same procedures but at lower detection levels. The change in method is not considered to materially impact the results reported. Rinsate and Trip Blanks One trip blank and four rinsate blanks were analysed for a reduced PFAS analytical suite instead of the SAQP stipulated full PFAS suite. A reduced PFAS suite has been used on some RAAF Wagga fieldworks for Defence previously. The reduced suite was used for field and trip blank samples based on Jacobs understanding of the PFAS analytes encountered at the Wagga base (i.e., typically PFOS and PFOA are the most common and highest concentrations). Additionally, all PFAS analytes with relevant assessment criteria are included in the reduced PFAS suite for comparison with primary sample data. It is noted that the use of the reduced suite is a deviation from the SAQP, but it is not considered to impact data quality.
The analytical data provided within reports ES2506606 and 1196147 are considered acceptable and appropriate for use in this investigation.

Appendix D. Field Records & Calibration Certificates

Table D-1. Stabilisation and sample comments

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	℃	mV	µS/cm	pH Units
GROUNDWATER SAMPLES – HYDRASLEEVES															
COWRA FORMATION															
MW239	4/02/2025	168.972	21.17	Hydrasleeve	4/02/2025	17.6	11-20	26/02/2025	N/A	Clear to slightly cloudy, small amount of sand at base of Hydrasleeve. Laboratory duplicate samples collected.	4.84	24.7	103.8	1870	6.94
MW240	5/02/2025	169.231	27.5	Hydrasleeve	07/02/2025	16.25	12-26	28/02/2025	18D102941	Slightly cloudy, slightly brown-grey, trace rootlets at bottom of Hydrasleeve and caught on top of Hydrasleeve.	3.72	25.4	69.2	590	6.51
MW245	6/02/2025	168.38	20.555	Hydrasleeve	06/02/2025	15.3	12-20	25/02/2025	N/A	Clear to slightly cloudy with ants and sand settled at base of Hydrasleeve, organic odour.	2.23	24	103.5	962	6.11
MW248	5/02/2025	170.376	24.58	Hydrasleeve	05/02/2025	16.7	9.5-22.5	25/02/2025	18D102941	No dupes/trips taken. Data logger downloaded. Clear to slightly cloudy. Brown to light brown cloudy sediment settled at base of Hydrasleeve. No odour.	2.65	21.6	109.6	1815	6.74
MW250	5/02/2025	167.09	25.99	Hydrasleeve	05/02/2025	18.9	13-23	25/02/2025	18D102941	Clear to slightly cloudy, small amount of brown-orange sandy sediment settled at base of Hydrasleeve. No odour.	2.88	25.2	55.7	743	6.55
MW251	5/02/2025	167.181	24.15	Hydrasleeve	05/02/2025	18.1	11-22.4	27/02/2025	18D102941	Clear to slightly cloudy, trace sandy sediment at base of Hydrasleeve, no odour.	1.19	21.9	36	412.2	5.61
MW254	7/02/2025	169.32	25.84	Hydrasleeve	07/11/2024	18.5	13-23	7/02/2025	18E104561	Clear, white suspended solids. No odour or sheen. Sampled from 18.5mbTOC.	4.33	19.3	-4	320	5.7
MW256	4/02/2025	169.028	22.466	Hydrasleeve	04/02/2025	18.5	11-23	28/02/2025	18D102914	Clear, no odour.	3.88	23	52.8	1556	6.64
MW257	4/02/2025	169.395	16.56	Hydrasleeve	04/02/2025	14.55	11-16	28/02/2025	18D102914	Clear, no odour or sediment.	5.04	22.2	49.2	3986	6.43
MW259	5/02/2025	169.915	17.585	Hydrasleeve	07/11/2024	14.0	10-16	5/02/2025	18E104561	Clear to orange-brown at base of Hydrasleeve. No suspended solids. No sheen or odour.	1.33	20.4	-87.5	754	6.52
MW262	5/02/2025	169.396	24.25	Hydrasleeve	07/11/2024	18.2	12.5-22.5	5/02/2025	18E104561	Clear, slightly turbid. Orange- brown at base of Hydrasleeve. No odour.	5.12	21	-15.4	870	6.42
MW265	6/02/2025	168.966	22.24	Hydrasleeve	07/11/2024	17.0	10-20.5	6/02/2025	11K101260	Clear to orange, highly turbid at base of sleeve, no odour/sheen/product. Water level 12.984 mbTOC after retrieval.	3.21	20.4	100.5	1462	6.45

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	℃	mV	µS/cm	pH Units
										Sample ID: 0906_MW265_15.0_240206 (sample time 0745).					
MW268	6/02/2025	168.356	22.1	Hydrasleeve	07/11/2024	17.0	12.7-21.7	6/02/2025	18E104561	Clear to brown at base of Hydrasleeve. Slight turbidity.	4.54	22.1	-31.7	976	5.79
MW301	3/02/2025	Well Dry (no water)					8.5-17.5	Well Dry (no water)							
MW303	3/02/2025	Well Dry (no water)					7-11	Well Dry (no water)							
MW305	3/02/2025	Well Dry (no water)					14-23	Well Dry (no water)							
MW307	3/02/2025	Insufficient water for sampling.					8.5-29.5	Insufficient water for sampling.							
MW309	3/02/2025	Insufficient water for sampling.					12-21	Insufficient water for sampling.							
MW311	3/02/2025	187.422	22.1	Hydrasleeve	03/02/2025	18.65	8-20	7/02/2025	11K101260	Water level at 18.044mbTOC after Hydrasleeve removed. Pale brown to pale orange, low turbidity with suspended solids, no odour/sheen/product. Sample ID: 0906_MW311_18.65_250207(sample time 1040).	1.72	23.5	116.7	5138	6.72
MW313	4/02/2025	Well Dry (no water)					7-11	Well Dry (no water)							
UPPER LACHLAN FORMATION															
MW204	4/02/2025	170.275	18.1	Hydrasleeve	04/02/2025	15.5	34-43	26/02/2025	18D102941	Clear with some suspended solids, orange organics. Organic odour.	1.7	18.3	-118.5	511.6	7.35
MW238	4/02/2025	168.534	70.116	Hydrasleeve	4/02/2025	53.5	33-68	26/02/2025	18D102941	Clear. No sediment, no odour. Laboratory duplicate samples collected.	2.04	26.6	134.7	1277	6.65
MW242	4/02/2025	186.314	62.702	Hydrasleeve	04/02/2025	49.5	37-61	28/02/2025	18D102914	Cloudy to turbid, brown-grey, sulfuric odour, minor silty sediment settled at base of Hydrasleeve.	1.35	21.6	-178.1	547	7.16
MW243	3/02/2025	172.607	54.035	Hydrasleeve	03/02/2025	43.75	30.5-52.5	6/02/2025	11K101260	Water level 38.857mbTOC after Hydrasleeve removed. Clear to slightly cloudy/white, minor sediment at base of sleeve, no odour/sheen/product. Organic fine grass present. Sample ID: 0906_MW243_43.75_250206 (sample time 1625).	1.4	23.5	136.3	1263	6.5

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	°C	mV	µS/cm	pH Units
MW246	4/02/2025	171.102	48.832	Hydrasleeve	04/02/2025	35.15	22-48	7/02/2025	18E104561	Clear, slightly turbid at base of Hydrasleeve. White suspended solids. No odour. White sheen on surface of water remaining from Hydrasleeve. Sampled from depth 35.15 mbTOC.	0.69	24.1	-100.7	508.2	6.55
MW247	5/02/2025	170.37	34.902	Hydrasleeve	05/02/2025	30.9	26-33	25/02/2025	18D102941	Cloudy, light brown, brownish sediment settled at base of Hydrasleeve, no odour. Laboratory duplicate samples collected.	2.41	23	25.4	1016	8.88
MW249	5/02/2025	166.811	60.665	Hydrasleeve	05/02/2025	51.0	41-59	25/02/2025	18D102941	lab dup taken. Clear to slightly cloudy, slight grey colour, no odour.	2.1	24.4	74.7	788	6.32
MW252	5/02/2025	166.997	61.47	Hydrasleeve	05/02/2025	47.5	30-60	27/02/2025	18D102914	Clear. No odour.	1.36	22.1	149.9	373	6.14
MW255	4/02/2025	168.789	52.987	Hydrasleeve	04/02/2025	46.8	42-52	28/02/2025	18D102914	Clear, no odour.	1.96	22.8	51	1022	6.61
MW258	5/02/2025	169.82	26.895	Hydrasleeve	07/11/2024	23.5	19.5-25.5	5/02/2025	18E104561	Clear, no odour or sheen. Trace white suspended solids at the base of Hydrasleeve. QC101 and QC201 collected.	1.13	19.5	-51	1006	6.64
MW263	5/02/2025	168.137	30.5	Hydrasleeve	07/11/2024	27.5	25-30	5/02/2025	18E104561	Cloudy grey, very turbid, no odour, no sheen. White suspended solids. Sandy on twine.	0.89	20.8	-149.9	663	10.66
MW266	6/02/2025	168.952	33.58	Hydrasleeve	07/11/2024	31.0	29.5-32.5	6/02/2025	11K101260	Clear to slightly cloudy to very pale brown, slight organic odour, pale brown at base of sleeve with slight turbidity, no sheen/product. Water level 12.962mbTOC after sampling. Sample ID: 0906_MW266_31_250206 (sample time: 0837).	1.35	20.5	126.7	1015	6.55
MW269	6/02/2025	169.047	33.415	Hydrasleeve	07/11/2024	31.0	29.5-32.5	6/02/2025	18E104561	Clear to green-brown at the base of the Hydrasleeve. Moderate turbidity.	1.27	22.7	-54.6	739	6.2
MW300	3/02/2025	171.3	62.06	Hydrasleeve	03/02/2025	42.5	30-54.9	6/02/2025	11K101260	Water level 29.239mbTOC after Hydrasleeve removal. Clear to slightly cloudy, minor sediment at base of sleeve, no turbidity/ odour/ sheen. Sample:0906_MW300_42.5_250206 (sample time 1515). Duplicate and triplicate samples collected (QC101_250206, QC201_250206).	3.03	22.9	155.7	1564	6.27
MW302	3/02/2025	171.486	65.21	Hydrasleeve	03/02/2025	47.9	35-62.8	6/02/2025	11K101260	Water level at 38.09mbTOC after Hydrasleeve removal. Clear to slightly cloudy, minor silt/sand at base of sleeve, no odour/ sheen/ product. Sample ID:	2.59	23.8	139.7	624	6.54

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	°C	mV	µS/cm	pH Units
										0906_MW302_47.9_250206 (sample time 1405).					
MW304	3/02/2025	172.796	52.16	Hydrasleeve	03/02/2025	44.0	29-53	27/02/2025	18D102941	Clear at top of Hydrasleeve, becoming cloudy brown-orange towards base with brown/orange sediment settled at base of Hydrasleeve.	1.49	22.1	120.3	1895	6.92
MW306	3/02/2025	188.78	61.28	Hydrasleeve	03/02/2025	52.0	47-59	28/02/2025	18D102914	Clear, slight sulfuric odour, yellow colouring on Hydrasleeve string ~45-51mbgl.	1.51	19.4	-154.8	2313	6.93
MW308	3/02/2025	171.947	66.762	Hydrasleeve	03/02/2025	50.55	33-57	6/02/2025	11K101260	Water level 41.986mbTOC after sleeve removed. Clear to pale brown/orange, high turbidity at base of sleeve, no odour/sheen/product. Sample ID: 0906_MW308_50.55_250206 (sample time 1225).	3	24.8	139.4	716	6.36
MW310	3/02/2025	189.127	58.835	Hydrasleeve	03/02/2025	50.2	39-57	7/02/2025	11K101260	Water level after Hydrasleeve removal 23.306 mbTOC. Pale brown to grey, low turbidity, moderate orange sediment at base of sleeve, no odour/sheen/product. Sample ID: 0906_MW310_50.2_250207 (sample time 1115).	2.13	24.7	99.7	1264	6.98
MW312	4/02/2025	170. 368	51.511	Hydrasleeve	04/02/2025	41.0	21-59	26/02/2025	18D102941	Cloudy to turbid, light brown to orange, fine suspended solids settled at base of well, brown to orange. QAQC samples taken.	4.36	20.8	58.6	834	6.71
LOWER LACHLAN FORMATION															
MW244	6/02/2025	168.136	60.59	Hydrasleeve	06/02/2025	41.0	28-52	25/02/2025	18D102941	Clear, no odour.	1.78	22.1	154.2	210.4	6.67
MW253	7/02/2025	168.234	48.83	Hydrasleeve	07/11/2024	45.85	41-47	7/02/2025	18E104561	Clear, no odour or sheen. Sampled 45 mbTOC.	3.18	20.1	-23.1	426.3	6.2
MW261	5/02/2025	167.3	59.44	Hydrasleeve	07/11/2024	52.5	44-59	5/02/2025	18E104561	Clear to grey at base of Hydrasleeve. Low to moderate turbidity. Sand at base.	0.63	21.1	-100.7	379.2	6.59
MW264	5/02/2025	166.165	49.33	Hydrasleeve	07/11/2024	45.2	41.3-47.3	5/02/2025	18E104561	Clear, slightly turbid with white suspended solids. Pale brown tinge at the base with trace sediments.	0.73	21.4	-114.3	432.5	7.34
MW267	6/02/2025	167.034	49.3	Hydrasleeve	07/11/2024	45.15	39.5-49.5	6/02/2025	11K101260	Clear, no odour/turbidity/sheen/product. Sample ID: 0906_MW267_44.5_250206 (sample time	2.83	20.9	130.6	270.3	6.48

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	℃	mV	µS/cm	pH Units
										0915). Water level 14.905mbTOC after Hydrasleeve removed.					
MW270	6/02/2025	168.194	50.96	Hydrasleeve	07/11/2024	43.5	39-48	6/02/2025	18E104561	Clear, slightly cloudy at base of Hydrasleeve. Trace white suspended solids.	1.87	22.5	-108.2	282.1	6.39
WANTABADGERY GRANITE FORMATION															
MW241	4/02/2025	186.591	74.24	Hydrasleeve	04/02/2025	68.15	58.5-73.5	28/02/2025	18D102914	Slightly cloudy, greyish, no odour.	1.35	19.9	-204.7	761	10.64
GROUNDWATER SAMPLES – FULLY ENCASED WELLS															
COWRA FORMATION															
MW233	N/A	N/A	N/A	Grab	N/A	N/A	12.5-15.5	4/02/2025	18E104561	Clear, no odour, no staining, no foaming. Pump ran for 1 min. Was already running today, stated by property owner.	6.02	21.9	-22.5	1675	6.69
UPPER / LOWER LACHLAN FORMATION															
MW200	N/A	N/A	N/A	Grab	N/A	N/A	39-45	4/02/2025	10H100319	Pump on at 0658. Sampled 0703. (5 min. running). Clear, no odour, no staining, no foaming. Lab QC bottles collected.	3.11	19.4	-69.5	1359	6.65
MW209	N/A	N/A	N/A	Grab	N/A	N/A	42.3-54.5	4/02/2025	18E104561	Clear, no odour or staining, no foaming. Property has been running pump at time of sample. Let it flow for 1 min. Orange-brown for 2 seconds then clear.	6.29	22.2	-84.5	335.8	6.28
MW211	N/A	N/A	N/A	Grab	N/A	N/A	48.37-70.5	5/02/2025	11K101260	Tap ran for 1.5 min. Colourless, no odour or sheen, trace particulate matter.	3.11	18.8	121.2	339.5	6.24
MW212	N/A	N/A	N/A	Grab	N/A	N/A	48.15-59.7	5/02/2025	11K101260	Tap ran for a min. RWCC noted the bore Wasn't running when they arrived. Colourless, no odour or sheen, trace white suspended solids.	4.01	20.1	108.9	256.2	6.6
MW213	N/A	N/A	N/A	Grab	N/A	N/A	48.1-68.8	5/02/2025	11K101260	Clear, trace white suspended solids. No odour or sheen. Run tap for 2 min., has not been on in some time (RWCC). Remained clear the whole time.	3.17	18.2	107.4	246.3	6.38
MW214	N/A	N/A	N/A	Grab	N/A	N/A	43.6-52.7	5/02/2025	11K101260	Tap running for 1 min. prior to sample collection Very cloudy/white, became clear after 1.5min.,	1.19	38.1	-53.9	528	6.77

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	°C	mV	µS/cm	pH Units
										slight bubbles, slight musty odour, no turbidity/no sheen or product.					
MW231	N/A	N/A	N/A	Grab	N/A	N/A	46.9-56.3	4/02/2025	18E104561	Clear, low turbidity, no odour, no staining, no foaming. Tap running for 1 min. Owner noted that he pre flushed it prior to coming. Orange water on ground.	1.63	20.5	-52	471.4	6.29
MW235	N/A	N/A	N/A	Grab	N/A	N/A	14.3-17.7	Sampling unable to be completed. Pump not operational.							
MW260	N/A	N/A	N/A	Grab	N/A	N/A	-	4/02/2025	18E104561	Clear, no odour or staining, no particulate matter. Pump was on for a min.	3.78	21.5	-33.2	235	6.43
SURFACE WATER SAMPLES															
SW104	N/A	N/A	N/A	Telescopic	N/A	N/A	-	27/02/2025	18D102941	Clear, slight organic odour. No parameters collected - too slow/little flow from inlet.	N/A	N/A	N/A	N/A	N/A
SW206	N/A	N/A	N/A	Grab	N/A	N/A	-	27/02/2025	N/A	Clear to slightly cloudy, organic matter growing in culvert, foam on surface, slight organic odour, anthropogenic material in drain i.e. syringe, plastic. Slight foam on surface.	6.17	23.9	44.9	304.8	7.76
SW212	N/A	N/A	N/A	Grab	N/A	N/A	-	28/02/2025	N/A	Slightly cloudy to cloudy, no odour, low flow, moderate within main body of river.	5.02	23.1	93.7	148	7.66
SW218	N/A	N/A	N/A	Grab	N/A	N/A	-	27/02/2025	N/A	Clear to slightly cloudy, slight brown tinge, organic matter growing in culvert, foam on surface, slight organic odour, anthropogenic material in drain i.e. syringe, plastic. Slight foam on surface.	6.39	25.7	85.3	290	8.01
SW228	N/A	N/A	N/A	Grab	N/A	N/A	-	26/02/2025	N/A	Cloudy with green tinge, low flow through pipework, moderate sewage odour. Constant flow into pond.	14.96	31.1	-50.4	597	10.31
SW234	N/A	N/A	N/A	Grab	N/A	N/A	-	4/02/2025	18E104561	Clear, slightly turbid, trace leaf litter.	4.93	29.3	-54.4	667	7.01
SW236	N/A	N/A	N/A	Grab	N/A	N/A	-	26/02/2025	N/A	Clear, brown tinge, no odour	1.32	24	2.8	686	7.23
SW240	N/A	N/A	N/A	Grab	N/A	N/A	-	26/02/2025	N/A	Clear, brown tinge, no odour with some leaf litter	8.06	23.8	83.6	156.7	7.74
SW261	N/A	N/A	N/A	Telescopic	N/A	N/A	-	27/02/2025	18D102941	Slightly cloudy to cloudy, slight brown tinge, no odour, river moderate flows, lower flows towards the banks.	6.6	24.6	103.4	152.6	7.65

Location	Gauging Date	SWL (mAHD)	Bore Depth (mBTOC)	Sampling Method	Hydrasleeve Deployment Date	Hydrasleeve Depth (mBTOC)	Screened Interval (mBTOC)	Sampled Date	Equipment ID	Sample Comments	DO	Temp	ORP	EC	pH
											mg/L	°C	mV	µS/cm	pH Units
SW262	N/A	N/A	N/A	Grab	N/A	N/A	-	6/02/2025	18E104561	Colourless, clear, no odour or sheen. Some bubbles on the surface. Leaf litter on the surface.	4.62	25.3	-64.5	126.5	6.92
SW263	N/A	N/A	N/A	Grab	N/A	N/A	-	27/02/2025	18D102941	Clear to slightly cloudy, slight brown tinge, no odour, river low to moderate flow. Laboratory duplicate samples collected.	6.97	24.9	113.4	144.3	7.66
SW286	N/A	N/A	N/A	Grab	N/A	N/A	-	26/02/2025	N/A	Clear to slightly cloudy, with brown tinge, river with moderate flow.	5.43	21.9	101.8	409.9	7.11
SW287	N/A	N/A	N/A	Grab	N/A	N/A	-	27/02/2025	N/A	Slightly cloudy to cloudy, brown tinge, moderate flow.	7.16	24.9	120.4	179.4	7.47
SW288	N/A	N/A	N/A	Grab	N/A	N/A	-	26/02/2025	N/A	Cloudy with yellow tinge, strong sewage odour.	0.98	27.4	-136.9	914	7.41
SW289	N/A	N/A	N/A	Grab	N/A	N/A	-	26/02/2025	N/A	Cloudy with yellow tinge, strong sewage odour, moderate flow	0	29.8	-185.1	1104	7.62
SW294	N/A	N/A	N/A	Grab	N/A	N/A	-	27/02/2025	18D102914	Slightly cloudy to cloudy, brown to grey tinge, anthropogenic materials (i.e. tyre, cardboard, plastics, signs, Geotab), low flow.	5.13	25.2	122	558	7.04
SW309	N/A	N/A	N/A	Grab	N/A	N/A	-	5/02/2025	11K101260	Colourless, trace brown suspended solids, no odour or sheen.	4.99	23.1	97.9	107.9	7.1
SW310	N/A	N/A	N/A	Grab	N/A	N/A	-	28/02/2025	N/A	Turbid water, silty, grey-brown, no odour. Stagnant, no flow in creek. Creek dry west of location.	0	25.2	-103.9	270.6	6.92
SW311	N/A	N/A	N/A	Grab	N/A	N/A	-	5/02/2025	18E104561	Clear with pale greenish tinge. No odour or sheen. Leaf litter on surface.	4.52	27.3	-12.1	691	7.08
SW312	N/A	N/A	N/A	Grab	N/A	N/A	-	28/02/2025	18D102914	Clear to slightly cloudy, moderate flow of river, rocky bed rather than sandy, no odour, slight suspended solids.	6.59	24.9	35.3	193.2	7.7

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 11K101260

Air-Met Scientific Pty Ltd
1300 137 067

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

Certificate of Calibration

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

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
2. pH 7.00		7.00		426181	7.01
3. pH 4.00		4.00		429462	3.98
4. ORP (mV)		224.76		A426086/B435258	225
5. EC (uS/cm)		2760		433489	2757
6. D.O (%)		0.0%		412773	0.0%
7. Temp (C)		24.2		MultiTherm	24.0

Calibrated by: **Miriam Poyitt**

Calibration date: **28/01/2025**

Next calibration due: **28/02/2025**

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 18E104561

Air-Met Scientific Pty Ltd
1300 137 067

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

Certificate of Calibration

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

Sensor		Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		7.00		426181	6.98
2. pH 4.00		4.00		429462	3.99
3.ORP (mV)		228.72		426086/426087	224.6
4.EC (uS/cm)		2760		429463	2748
5. D.O (%)		0.0%		412773	0.1%
6. Temp (C)		25.6		MultiTherm	22.4

Calibrated by: **Amanda Neale**

Calibration date: **27/02/2025**

Next calibration due: **29/03/2025**

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 18D102941

Air-Met Scientific Pty Ltd
1300 137 067

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

Certificate of Calibration

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

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00 (pH)		pH 7.00		433551	7.02
2. pH 4.00 (pH)		pH 4.00		429462	3.80
3. ORP (mV)		227.84		A426086/B435258	226.2
4. EC (µS/cm)		2760		436693	2773
5. D.O		0.0%		412773	0.2%
6. Temp (°C)		23.8		MultiTherm	23.7

Calibrated by: **Athonis Popotas**

Calibration date: **19/02/2025**

Next calibration due: **21/03/2025**

WQM Calibration YSI - 18E104561

Thursday, 19 October 2023 8:57 AM

Field Calibration Record Sheet

Project no.	IS419100
Project name	RAAF Base Wagga PFAS OMP
Instrument Name	YSI professional plus
Instrument ID	18E104561

Jacobs

Calibration date/Time	Analyte	Units	Standard used	Initial Reading	Calibrated Reading	Temp. (°C)	Drift Check	Comments	Calibrated By
8:55	pH	pH units	4	4.07	4.01	26.3			LE
8:55	pH	pH units	7	6.98	7	26			LE
9:00	EC	SPC	2760	2733	2813	26			LE
9:14	ORP	mV	245	201.7	220.9	26.2			LE
9:16	DO	%	0	-0.1	0.0	26			LE
9:18	DO	%	100	97.2	98	26.1			LE
27/02/25 8:00	pH	pH units	4	4.05	4.00	23.1			SB
27/02/25 8:00	pH	pH units	7	6.97	7.01	23.1			SB
27/02/25 8:00	EC	SPC	2760	2859	2655	23.1			Calibrated to temp - 2654.56.
27/02/25 8:00	ORP	mV	245	225.7	227.1	23.1			Calibrated to temp- 227.18
27/02/25 8:00	DO	%	0	-0.05	0	23.1			SB
27/02/25 8:00	DO	%	100	99.5	99.9	23.1			SB
28/2/25 6:30	pH	pH units	4	3.95	4.01	27.2			
	pH	pH units	7	6.91	7.00				
	EC	SPC	2760	2609	2813	26.7			Cal to 2812.72 - temp
	ORP	mV	245	220.6	219.7				Cal to 219.7 - temp
	DO	%	0	0			Y		

WQM Calibration YSI - 11K101260

Thursday, 19 October 2023 8:57 AM

Field Calibration Record Sheet

Project no.	IS419100
Project name	RAAF Base Wagga PFAS OMP
Instrument Name	YSI Professional Plus
Instrument ID	11K101260

Jacobs

Calibration date/Time	Analyte	Units	Standard used	Initial Reading	Calibrated Reading	Temp. (˚C)	Drift Check	Comments	Calibrated By
06/02/25 0707	pH	pH units	4	4.07	4.00	23.2	-	-	EM
06/02/25 0711	pH	pH units	7	6.96	7.00	23.3	-	-	EM
06/02/25 0714	EC	SPC	2654	2710	2658	23.0	-	-	EM
06/02/25 0716	ORP	mV	227.4	231.3	227.3	23.0	-	-	EM
06/02/25 0721	DO	%	0	0.2	-0.1	23.1	-	-	EM
06/02/25 0724	DO	%	100	100.0	97.2	22.2	-	-	EM
07/02/25 0937	pH	pH units	4	4.04	4.00	24.5	-	-	EM
07/02/25 0940	pH	pH units	7	6.93	7.00	24.6	-	-	EM
07/02/25 0941	EC	SPC	2760	2645	2765	24.6	-	-	EM
07/02/25 0943	ORP	mV	233.8	223.1	233.7	24.6	-	-	EM
07/02/25 0945	DO	%	0	0.0	-0.1	24.6	-	-	EM
07/02/25 0949	DO	%	100	94.1	95.0	26.0	-	-	EM

WQM Calibration YSI - 18D102941

Thursday, 19 October 2023 8:57 AM

Field Calibration Record Sheet

Project no.	IS419100
Project name	
Instrument Name	
Instrument ID	18D102941

Jacobs

Calibration date/Time	Analyte	Units	Standard used	Initial Reading	Calibrated Reading	Temp. (°C)	Drift Check	Comments	Calibrated By
27/02/25 8:00	pH	pH units	4	4.05	4.00	23.1			SB
27/02/25 8:00	pH	pH units	7	6.97	7.01	23.1			SB
27/02/25 8:00	EC	SPC	2760	2859	2655	23.1			Calibrated to temp - 2654.56.
27/02/25 8:00	ORP	mV	245	225.7	227.1	23.1			Calibrated to temp- 227.18
27/02/25 8:00	DO	%	0	-0.05	0	23.1			SB
27/02/25 8:00	DO	%	100	99.5	99.9	23.1			SB
28/2/25 6:30	pH	pH units	4	3.95	4.01	27.2			
	pH	pH units	7	6.91	7.00				
	EC	SPC	2760	2609	2813	26.7			Cal to 2812.72 - temp
	ORP	mV	245	220.6	219.7				Cal to 219.7 - temp
	DO	%	0	0			Y		
	DO	%	100						
4/3/25 11:10	pH	pH units	4	4.04	4.01	26.2			
4/3/25 11:15	pH	pH units	7	7.00	7.00	26.2			
4/3/25 11:20	EC	SPC	2760	2795		26.5			Calibrating to 2850. 26.5C
	ORP	mV	220.4	220.3		26.2			
	DO	%	0	-0.5	0	25.3			
4/3/25 11:41	DO	%	100						100% DO did not rise to 100, remained at 50%. Did not calibrate incase error - calibration aborted
6/3/25 7:15	pH	pH units	4	4.00	4.00	22.5			
6/3/25 7:18	pH	pH units	7	6.99	7.01	22.8			
6/3/25	EC	SPC	2760						
	ORP	mV	245						
	DO	%	0						
	DO	%	100						
7/3/25 7:07	pH	pH units	4	4.06	4.00	21.6			
7/3/25	pH	pH units	7.02	6.98	7.02	21.3			
	EC	SPC	2601.84	2954		21.6			Temp calibrated
7/3/25	ORP	mV	231.14	229.1	231.1	21.3			Temp calibrated

Appendix E. Mann-Kendall Analysis Results

Table E-1. Mann-Kendall Analysis Results – Groundwater (Significance Level= 0.05, Primary samples only).

Monitoring Zone	Location Code	Monitoring Unit	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)
Gumly Gumly Wetland	MW200	Upper Lachlan	Decreasing, S=-32, N=11	Decreasing, S=-39, N=11	Decreasing, S=-23, N=11
	MW204	Upper Lachlan	No Trend, S=0, N=13	Decreasing, S=-30, N=13	Decreasing, S=-21, N=13
Drinking Water Supply bores to the north and north-west of base	MW209	Unassigned	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW211	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW212	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW213	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
Off-base to the north and north-west of base	MW214	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=12, N=12
	MW231	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
Gumly Gumly Wetland	MW233	Upper Lachlan	No Trend, S=10, N=11	No Trend, S=3, N=11	No Trend, S=11, N=11
Off-base to the north and north-west of base	MW235	Upper Lachlan	No Trend, S=0, N=9	No Trend, S=0, N=9	No Trend, S=0, N=9
Down-gradient of Gumly Gumly Wetland	MW238	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW239	Cowra	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW240	Cowra	No Trend, S=0, N=12	No Trend, S=-5, N=12	Decreasing, S=-31, N=12
Property to the east of the base	MW241	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW242	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
Down-gradient of Gumly Gumly Wetland	MW243	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW244	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=11, N=12	No Trend, S=0, N=12
	MW245	Cowra	No Trend, S=0, N=12	No Trend, S=0, N=12	Decreasing, S=-24, N=12

Monitoring Zone	Location Code	Monitoring Unit	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)
Off-base to the north and north-west of base	MW246	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
Down-gradient of Gumly Gumly Wetland	MW247	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW248	Cowra	No Trend, S=8, N=9	No Trend, S=4, N=9	Increasing, S=17, N=9
	MW249	Upper Lachlan	No Trend, S=0, N=11	No Trend, S=0, N=11	No Trend, S=0, N=11
	MW250	Cowra	No Trend, S=10, N=11	No Trend, S=10, N=11	No Trend, S=-20, N=11
	MW251	Cowra	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW252	Upper Lachlan	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	MW253	Lower Lachlan	Increasing, S=22, N=12	Increasing, S=26, N=12	No Trend, S=3, N=12
	MW254	Cowra	Increasing, S=28, N=12	Increasing, S=32, N=12	No Trend, S=-18, N=12
	MW255	Upper Lachlan	No Trend, S=-8, N=9	No Trend, S=7, N=9	No Trend, S=4, N=9
	MW256	Cowra	No Trend, S=8, N=9	No Trend, S=-8, N=9	No Trend, S=-12, N=9
	MW257	Cowra	No Trend, S=0, N=7	No Trend, S=0, N=7	No Trend, S=0, N=7
	MW258	Upper Lachlan	No Trend, S=0, N=8	No Trend, S=5, N=8	No Trend, S=6, N=8
	MW259	Cowra	No Trend, S=-3, N=8	Increasing, S=18, N=8	No Trend, S=-10, N=8
Drinking Water Supply bores to the north and north-west of base	MW260	Unassigned	No Trend, S=0, N=5	No Trend, S=0, N=5	No Trend, S=0, N=5
Down-gradient of Gumly Gumly Wetland	MW261	Lower Lachlan	No Trend, S=0, N=4	No Trend, S=0, N=4	No Trend, S=4, N=4
	MW262	Cowra	No Trend, S=1, N=3	No Trend, S=1, N=3	No Trend, S=1, N=3
	MW263	Upper Lachlan	No Trend, S=3, N=3	No Trend, S=-3, N=3	No Trend, S=3, N=3
	MW264	Lower Lachlan	No Trend, S=0, N=3	No Trend, S=1, N=3	No Trend, S=3, N=3

Monitoring Zone	Location Code	Monitoring Unit	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)
	MW265	Cowra	No Trend, S=2, N=3	No Trend, S=1, N=3	No Trend, S=-2, N=3
	MW266	Upper Lachlan	No Trend, S=0, N=3	No Trend, S=1, N=3	No Trend, S=3, N=3
	MW267	Lower Lachlan	No Trend, S=3, N=3	No Trend, S=-1, N=3	No Trend, S=-1, N=3
	MW268	Cowra	No Trend, S=0, N=3	No Trend, S=0, N=3	No Trend, S=-3, N=3
	MW269	Upper Lachlan	No Trend, S=1, N=3	No Trend, S=-3, N=3	No Trend, S=-1, N=3
	MW270	Lower Lachlan	No Trend, S=0, N=3	No Trend, S=0, N=3	No Trend, S=2, N=3
Along base boundary	MW300	Upper Lachlan	No Trend, S=11, N=12	Increasing, S=31, N=12	Increasing, S=43, N=12
Northwest of CSR_NSW_000893	MW302	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=-22, N=12	No Trend, S=0, N=12
Along base boundary	MW304	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=-11, N=12	No Trend, S=0, N=12
	MW306	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=11, N=12	No Trend, S=0, N=12
	MW308	Upper Lachlan	No Trend, S=0, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13
	MW310	Upper Lachlan	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	MW311	Cowra	No Trend, S=0, N=7	No Trend, S=-1, N=7	No Trend, S=11, N=7
Gumly Gumly Wetland	MW312	Upper Lachlan	No Trend, S=0, N=11	Decreasing, S=-36, N=11	Decreasing, S=-34, N=11

Table E-2. Mann-Kendall Analysis Results – Surface Water (Significance Level= 0.05, Primary samples only).

Monitoring Zone	Location Code	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)
Stormwater drainage to Gumly Gumly Wetland	SW104	No Trend, S=-260, N=84	No Trend, S=-308, N=84	No Trend, S=-260, N=84
	SW206	No Trend, S=-7, N=13	No Trend, S=-12, N=13	No Trend, S=-7, N=13
Marshalls Creek downstream of Gumly Gumly Wetland	SW212	No Trend, S=0, N=13	No Trend, S=-4, N=13	No Trend, S=0, N=13

Monitoring Zone	Location Code	PFOA (µg/L)	PFOS (µg/L)	PFHxS (µg/L)
Stormwater drainage from Forest Hill Rural Fire Service	SW218	No Trend, S=-5, N=11	No Trend, S=-9, N=11	No Trend, S=-5, N=11
Forest Hill Sewage Treatment Plant	SW228	Decreasing, S=-37, N=14	No Trend, S=-11, N=14	Decreasing, S=-37, N=14
Marshalls Creek downstream of Gumly Gumly Wetland	SW234	Decreasing, S=-33, N=12	No Trend, S=-17, N=12	Decreasing, S=-33, N=12
Kyeamba Creek	SW236	No Trend, S=0, N=10	No Trend, S=0, N=10	No Trend, S=0, N=10
	SW240	No Trend, S=0, N=10	No Trend, S=1, N=10	No Trend, S=0, N=10
Marshalls Creek downstream of Gumly Gumly Wetland	SW261	No Trend, S=0, N=13	No Trend, S=0, N=13	No Trend, S=0, N=13
	SW262	No Trend, S=-9, N=12	No Trend, S=-1, N=12	No Trend, S=-9, N=12
	SW286	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
Forest Hill Sewage Treatment Plant	SW288	No Trend, S=0, N=14	No Trend, S=18, N=14	No Trend, S=0, N=14
	SW289	No Trend, S=-10, N=12	No Trend, S=18, N=12	No Trend, S=-10, N=12
Marshalls Creek downstream of Gumly Gumly Wetland	SW294	No Trend, S=-13, N=11	No Trend, S=-2, N=11	No Trend, S=-13, N=11
	SW309	No Trend, S=0, N=12	No Trend, S=0, N=12	No Trend, S=0, N=12
	SW310	No Trend, S=-18, N=10	No Trend, S=-13, N=10	No Trend, S=-18, N=10
	SW311	No Trend, S=0, N=3	No Trend, S=-2, N=3	No Trend, S=0, N=3

Appendix F. Laboratory Certificates

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147, Dangar, NSW, 2 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO: [redacted]

Quote #:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email: [redacted]

Email:

ANALYSIS REQUIRED

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
1	0906_QC301_250203	3/02/2025	X				X												X	
2	0906_QC301_250204	4/02/2025	X				X												X	
3	0906_SW234_250204	4/02/2025	X				X				4:42:00 PM								X	
4	0906_MW260_250204	4/02/2025	X				X				2:57:00 PM								X	
5	0906_MW209_250204	4/02/2025	X				X				1:41:00 PM								X	
6	0906_MW231_250204	4/02/2025	X				X				##########								X	
7	0906_MW200_250204	4/02/2025	X				X				7:04:00 AM								X	Internal Lab QC (2 x extra bottles)
8	0906_MW233_250204	4/02/2025	X				X				2:08:00 PM								X	
9	0906_MW211_250205	5/02/2025	X				X				7:37:00 AM								X	
10	0906_MW212_250205	5/02/2025	X				X				7:22:00 AM								X	
11	0906_MW213_250205	5/02/2025	X				X				7:49:00 AM								X	
12	0906_SW309_250205	5/02/2025	X				X				8:10:00 AM								X	
13	0906_MW262_18_250205	5/02/2025	X				X				##########								X	
14	0906_MW263_27.8_250205	5/02/2025	X				X				##########								X	
15	0906_MW264_44.5_250205	5/02/2025	X				X				##########								X	
16	0906_MW261_52.5_250205	5/02/2025	X				X				2:29:00 PM								X	
17	0906_MW259_14_250205	5/02/2025	X				X				2:10:00 PM								X	
18	0906_MW258_23.5_250205	5/02/2025	X				X				3:28:00 PM								X	

Subcon / Forward Lab / Split WO: Eurofins

Lab / Analysis:

Organised By / Date:

Relinquished By / Date:

Courier: DE FWD

WO No: ES25 03757

Attached by PO / Internal Sheet:

Environmental Division
Sydney
Work Order Reference
ES2503757

Telephone : +61-2-8784 8555

Rec'd
10/2/25
1720

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO [redacted]

Quote #

Email [redacted]

Email

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX				PRESERVATION METHOD				SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED						
			WATER	SOIL	AIR	OTHER	ICE	ACID	OTHER	NONE			Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold
19	0906_QC101_250205	5/02/2025	X				X												X

Jacobs

Jacobs Group (Australia) Pty. Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd. Smithfield NSW 2164

JACOBS PO: [redacted]

Quote #:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email: [redacted]

Email:

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX				PRESERVATION METHOD				SAMPLE TIME	No. OF CONTAINERS	ANALYSIS REQUIRED							COMMENTS
			WATER	SOIL	AIR	OTHER	ICE	ACID	OTHER	NONE			Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	
20	0906_MW214_250205	5/02/2025	X				X				#########								X	
21	0906_SW311_250205	5/02/2025	X				X				#########								X	
22	0906_MW235A_250205	5/02/2025	X				X				2:05:00 PM								X	
23	0906_MW235B_250205	5/02/2025	X				X				2:20:00 PM								X	
24	0906_QC301_250205	5/02/2025	X				X				4:30:00 PM								X	
25	0906_MW265_15.0_240206	6/02/2025	X				X				7:45:00 AM								X	
26	0906_MW266_31_240206	6/02/2025	X				X				8:37:00 AM								X	
27	0906_MW267_44.5_240206	6/02/2025	X				X				9:15:00 AM								X	
28	0906_MW268_17_240206	6/02/2025	X				X				1:42:00 PM								X	
29	0906_MW269_31_240206	6/02/2025	X				X				2:43:00 PM								X	
30	0906_MW270_43.5_240206	6/02/2025	X				X				4:06:00 PM								X	
31	0906_SW262_250206	6/02/2025	X				X				5:12:00 PM								X	
32	0906_MW308_50.55_240206	6/02/2025	X				X				#########								X	
33	0906_MW302_47.9_240206	6/02/2025	X				X				2:05:00 PM								X	
34	0906_MW300_42.5_240206	6/02/2025	X				X				2:05:00 PM								X	
35	0906_QC101_250206	6/02/2025	X				X												X	
36	0906_MW243_43.75_240206	6/02/2025	X				X				4:25:00 PM								X	
37	0906_QC301_250206	6/02/2025	X				X				4:30:00 PM								X	

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147, Dangar NSW 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO [redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email [redacted]
Email

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
38	0906_MW253_45_250106	6/02/2025	X				X				7:49:00 AM								X	
39	0906_MW254_18.5_250106	6/02/2025	X				X				8:14:00 AM								X	
40	0906_MW246_35.15_250207	7/02/2025	X				X				##########								X	
41	0906_MW311_18.65_250207	7/02/2025	X				X				##########								X	
42	0906_MW310_50.2_250207	7/02/2025	X				X				##########								X	
43	0906_QC301_250207	7/02/2025	X				X				1:15:00 PM								X	
44	0906_QC501_250207	7/02/2025	X				X												X	

Receipt Detail (Lab Use ONLY)

Chill Method: Ice/ice bricks/none | Sample Temp at receipt: °C °C °C | Carrier Details: Courier/Post , Client | Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Shashini Gopallawa (Jacobs)	Signature:	SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment to ALS Environmental	Received by:	Date/Time

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2309
Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins
JACOBS PO#: [redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	No. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250205										5/02/2025					X				FWD to EUROFINS
	0906_QC201_250206										6/02/2024					X				FWD to EUROFINS

Receipt Detail (Lab Use ONLY)	Chill Method: Ice/Ice bricks/none	Sample Temp at receipt	°C	°C	°C	Carrier Details : Courier/Post , Client	Packaging (circle):	Hard Esky Foam Esky Box/bag/other

Relinquished by:	Shashini Gopallawa (Jacobs)	Signature:	SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment	Received by:	Date/Time

Jacobs

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PO Box 2147, Dangar, NSW 2 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO: [redacted]
Quote #:
Email: [redacted]
Email:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
1	0906_QC301_250203	3/02/2025	X				X												X	
2	0906_QC301_250204	4/02/2025	X				X												X	
3	0906_SW234_250204	4/02/2025	X				X				4:42:00 PM								X	
4	0906_MW260_250204	4/02/2025	X				X				2:57:00 PM								X	
5	0906_MW209_250204	4/02/2025	X				X				1:41:00 PM								X	
6	0906_MW231_250204	4/02/2025	X				X				11:22:00 AM								X	
7	0906_MW200_250204	4/02/2025	X				X				7:04:00 AM								X	Internal Lab QC (2 x extra bottles)
8	0906_MW233_250204	4/02/2025	X				X				2:08:00 PM								X	
9	0906_MW211_250205	5/02/2025	X				X				7:37:00 AM								X	
10	0906_MW212_250205	5/02/2025	X				X				7:22:00 AM								X	
11	0906_MW213_250205	5/02/2025	X				X				7:49:00 AM								X	
12	0906_SW309_250205	5/02/2025	X				X				8:10:00 AM								X	
13	0906_MW262_18_250205	5/02/2025	X				X				10:11:00 AM								X	
14	0906_MW263_27.8_250205	5/02/2025	X				X				10:58:00 AM								X	
15	0906_MW264_44.5_250205	5/02/2025	X				X				11:39:00 AM								X	
16	0906_MW261_52.5_250205	5/02/2025	X				X				2:29:00 PM								X	
17	0906_MW259_14_250205	5/02/2025	X				X				2:10:00 PM								X	
18	0906_MW258_23.5_250205	5/02/2025	X				X				3:28:00 PM								X	
19	0906_QC101_250205	5/02/2025	X				X												X	

Subcon / Forward Lab / Split WO: Eurofins
Lab / Analysis:
Organised By / Date:
Relinquished By / Date:
Courier: QC FWD
WO No: ES2503757
Attached By PO / Internal Sheet:

Environmental Division
Sydney
Work Order Reference
ES2503757

Telephone : - 61-2-8784 8555

Rec: 10/2/25 1120

Jacobs

Jacobs Group (Australia) Pty Ltd | Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2: ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO: [redacted]
Quote #:
TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email:
Email:

[redacted]

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
20	0906_MW214_250205	5/02/2025	X				X				12:10:00 PM								X	
21	0906_SW311_250205	5/02/2025	X				X				12:13:00 PM								X	
22	0906_MW235A_250205	5/02/2025	X				X				2:05:00 PM								X	
23	0906_MW235B_250205	5/02/2025	X				X				2:20:00 PM								X	
24	0906_QC301_250205	5/02/2025	X				X				4:30:00 PM								X	
25	0906_MW265_15.0_240206	6/02/2025	X				X				7:45:00 AM								X	
26	0906_MW266_31_240206	6/02/2025	X				X				8:37:00 AM								X	
27	0906_MW267_44.5_240206	6/02/2025	X				X				9:15:00 AM								X	
28	0906_MW268_17_240206	6/02/2025	X				X				1:42:00 PM								X	
29	0906_MW269_31_240206	6/02/2025	X				X				2:43:00 PM								X	
30	0906_MW270_43.5_240206	6/02/2025	X				X				4:06:00 PM								X	
31	0906_SW262_250206	6/02/2025	X				X				5:12:00 PM								X	
32	0906_MW308_50.55_240206	6/02/2025	X				X				12:25:00 PM								X	
33	0906_MW302_47.9_240206	6/02/2025	X				X				2:05:00 PM								X	
34	0906_MW300_42.5_240206	6/02/2025	X				X				2:05:00 PM								X	
35	0906_QC101_250206	6/02/2025	X				X												X	
36	0906_MW243_43.75_240206	6/02/2025	X				X				4:25:00 PM								X	
37	0906_QC301_250206	6/02/2025	X				X				4:30:00 PM								X	
38	0906_MW253_45_250106	6/02/2025	X				X				7:49:00 AM								X	

Rec'd 10/2/25 1720

Jacobs

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CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO: [redacted]
Quote #:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	[redacted]
Jacobs Reference	IS419100

Email: [redacted]
Email: [redacted]

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
39	0906_MW254_18.5_250106	6/02/2025	X				X				8:14:00 AM								X	
40	0906_MW246_35.15_250207	7/02/2025	X				X				12:16:00 PM								X	
41	0906_MW311_18.65_250207	7/02/2025	X				X				10:40:00 AM								X	
42	0906_MW310_50.2_250207	7/02/2025	X				X				11:15:00 AM								X	
43	0906_QC301_250207	7/02/2025	X				X				1:15:00 PM								X	
	0906_QC501_250207	7/02/2025	X				X												X	

Receipt Detail (Lab Use ONLY): Chill Method: Ice/ice bricks/none | Sample Temp at receipt: °C °C °C | Carrier Details: Courier/Post , Client | Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Shashini Gopallawa (Jacobs)	Signature:	SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment to ALS Environmental
Received by:		Date/Time			

10/2/25 1720.

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2309
Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins
JACOBS PO#: [redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	No. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250205										5/02/2025					X				FWD to EUROFINS
	0906_QC201_250206										6/02/2024					X				FWD to EUROFINS

Receipt Detail (Lab Use ONLY)	Chill Method: Ice/ice bricks/none	Sample Temp at receipt	°C °C °C	Carrier Details : Courier/Post . Client	Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Shashini Gopallawa (Jacobs)	Signature:	SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment	Received by:	Date/Time

Jacobs

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CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO: [redacted]
Quote #:
Email: [redacted]
Email:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	[redacted]
Project Manager	
Sample Collectors	
Jacobs Reference	IS419100

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: OTHER	PRESERVATION METHOD: ICE	PRESERVATION METHOD: ACID	PRESERVATION METHOD: OTHER	PRESERVATION METHOD: NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	ANALYSIS REQUIRED: Standard PFAS (Standard Suite)	ANALYSIS REQUIRED: PFAS (Reduced Suite)	ANALYSIS REQUIRED:	ANALYSIS REQUIRED:	ANALYSIS REQUIRED:	ANALYSIS REQUIRED: Hold	COMMENTS
1	0906_QC301_250203	3/02/2025	X				X												X	
2	0906_QC301_250204	4/02/2025	X				X												X	
3	0906_SW234_250204	4/02/2025	X				X				4:42:00 PM								X	
4	0906_MW260_250204	4/02/2025	X				X				2:57:00 PM								X	
5	0906_MW209_250204	4/02/2025	X				X				1:41:00 PM								X	
6	0906_MW231_250204	4/02/2025	X				X				11:22:00 AM								X	
7	0906_MW200_250204	4/02/2025	X				X				7:04:00 AM								X	Internal Lab QC (2 x extra bottles)
8	0906_MW233_250204	4/02/2025	X				X				2:08:00 PM								X	
9	0906_MW211_250205	5/02/2025	X				X				7:37:00 AM								X	
10	0906_MW212_250205	5/02/2025	X				X				7:22:00 AM								X	
11	0906_MW213_250205	5/02/2025	X				X				7:49:00 AM								X	
12	0906_SW309_250205	5/02/2025	X				X				8:10:00 AM								X	
13	0906_MW262_18_250205	5/02/2025	X				X				10:11:00 AM								X	
14	0906_MW263_27.8_250205	5/02/2025	X				X				10:58:00 AM								X	
15	0906_MW264_44.5_250205	5/02/2025	X				X				11:39:00 AM								X	
16	0906_MW261_52.5_250205	5/02/2025	X				X				2:29:00 PM								X	
17	0906_MW259_14_250205	5/02/2025	X				X				2:10:00 PM								X	
18	0906_MW258_23.5_250205	5/02/2025	X				X				3:28:00 PM								X	
19	0906_QC101_250205	5/02/2025	X				X												X	

Subcon / Forward Lab / Split WO: ~~[redacted]~~ Eurofins
Lab / Analysis:
Organised By / Date:
Relinquished By / Date:
Courier: QC FWD
WO No: ES2503757
Attached By PO / Internal Sheet:

Environmental Division
Sydney
Work Order Reference
ES2503757

Telephone : +61-2-8784 8555

Rec: 10/2/25 1120

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147, Dangar, NSW, 2: ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO#: [redacted]
Quote #:
TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email: [redacted]
Email:

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
20	0906_MW214_250205	5/02/2025	X				X				12:10:00 PM								X	
21	0906_SW311_250205	5/02/2025	X				X				12:13:00 PM								X	
22	0906_MW235A_250205	5/02/2025	X				X				2:05:00 PM								X	
23	0906_MW235B_250205	5/02/2025	X				X				2:20:00 PM								X	
24	0906_QC301_250205	5/02/2025	X				X				4:30:00 PM								X	
25	0906_MW265_15.0_240206	6/02/2025	X				X				7:45:00 AM								X	
26	0906_MW266_31_240206	6/02/2025	X				X				8:37:00 AM								X	
27	0906_MW267_44.5_240206	6/02/2025	X				X				9:15:00 AM								X	
28	0906_MW268_17_240206	6/02/2025	X				X				1:42:00 PM								X	
29	0906_MW269_31_240206	6/02/2025	X				X				2:43:00 PM								X	
30	0906_MW270_43.5_240206	6/02/2025	X				X				4:06:00 PM								X	
31	0906_SW262_250206	6/02/2025	X				X				5:12:00 PM								X	
32	0906_MW308_50.55_240206	6/02/2025	X				X				12:25:00 PM								X	
33	0906_MW302_47.9_240206	6/02/2025	X				X				2:05:00 PM								X	
34	0906_MW300_42.5_240206	6/02/2025	X				X				2:05:00 PM								X	
35	0906_QC101_250206	6/02/2025	X				X												X	
36	0906_MW243_43.75_240206	6/02/2025	X				X				4:25:00 PM								X	
37	0906_QC301_250206	6/02/2025	X				X				4:30:00 PM								X	
38	0906_MW253_45_250106	6/02/2025	X				X				7:49:00 AM								X	

Rec 10/2/25 1120

Jacobs

Jacobs Group (Australia) Pty Ph: +61 2 4924 2600
PO Box 2147 Dangar, NSW 2: ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO#: [redacted]

Quote #:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email: [redacted]

Email: [redacted]

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
39	0906_MW254_18.5_250106	6/02/2025	X				X				8:14:00 AM								X	
40	0906_MW246_35.15_250207	7/02/2025	X				X				12:16:00 PM								X	
41	0906_MW311_18.65_250207	7/02/2025	X				X				10:40:00 AM								X	
42	0906_MW310_50.2_250207	7/02/2025	X				X				11:15:00 AM								X	
43	0906_QC301_250207	7/02/2025	X				X				1:15:00 PM								X	
44	0906_QC501_250207	7/02/2025	X				X												X	

Receipt Detail (Lab Use ONLY)	Chill Method: Ice/ice bricks/none	Sample Temp at receipt	°C °C °C	Carrier Details: Courier/Post / Client	Packaging (circle): Hard Esky Foam Esky Box/bag/other		
Relinquished by:	Shashini Gopallawa (Jacobs)	Signature: SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment to ALS Environmental	Received by:	Date/Time	

Extra - 45. IBC_22
46. IBC_27
47. IBC_32

Rec: 10/2/25 1720.

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2309
Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins
JACOBS PO#: [redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	No. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250205										5/02/2025					X				FWD to EUROFINS
	0906_QC201_250206										6/02/2024					X				FWD to EUROFINS

Receipt Detail (Lab Use ONLY)	Chill Method: Ice/ice bricks/none	Sample Temp at receipt	°C °C °C	Carrier Details : Courier/Post , Client	Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Shashini Gopallawa (Jacobs)	Signature:	SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment	Received by: Date/Time

UPDATED COC

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147, Dangar, NSW, 2 ABN 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

TURNAROUND: 5+ days (no surcharge)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO: [redacted]

Quote #:

Email: [redacted]

Email:

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: OTHER	PRESERVATION METHOD: ICE	PRESERVATION METHOD: ACID	PRESERVATION METHOD: OTHER	PRESERVATION METHOD: NONE	SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	ANALYSIS REQUIRED: Standard PFAS (Standard Suite)	ANALYSIS REQUIRED: PFAS (Reduced Suite)	ANALYSIS REQUIRED: Hold	COMMENTS
1	0906_QC301_250203	3/02/2025	X				X						X				
2	0906_QC301_250204	4/02/2025	X				X						X				
3	0906_SW234_250204	4/02/2025	X				X				4:42:00 PM			X			
4	0906_MW260_250204	4/02/2025	X				X				2:57:00 PM		X				
5	0906_MW209_250204	4/02/2025	X				X				1:41:00 PM		X				
6	0906_MW231_250204	4/02/2025	X				X				11:22:00 AM		X				
7	0906_MW200_250204	4/02/2025	X				X				7:04:00 AM		X				Internal Lab QC (2 x extra bottles)
8	0906_MW233_250204	4/02/2025	X				X				2:08:00 PM		X				
9	0906_MW211_250205	5/02/2025	X				X				7:37:00 AM		X				
10	0906_MW212_250205	5/02/2025	X				X				7:22:00 AM		X				
11	0906_MW213_250205	5/02/2025	X				X				7:49:00 AM		X				
12	0906_SW309_250205	5/02/2025	X				X				8:10:00 AM		X				
13	0906_MW262_18_250205	5/02/2025	X				X				10:11:00 AM		X				
14	0906_MW263_27.8_250205	5/02/2025	X				X				10:58:00 AM		X				
15	0906_MW264_44.5_250205	5/02/2025	X				X				11:39:00 AM		X				
16	0906_MW261_52.5_250205	5/02/2025	X				X				2:29:00 PM		X				
17	0906_MW259_14_250205	5/02/2025	X				X				2:10:00 PM		X				
18	0906_MW258_23.5_250205	5/02/2025	X				X				3:28:00 PM		X				

Environmental Division
Sydney
Work Order Reference
ES2503757

Telephone : +61-2-8784 8555

Jonathan
12/2/25 0800

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: + 61 2 4924 2600
PO Box 2147 Dangar, NSW, 2: ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO: [redacted]

Quote #:

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

TURNAROUND: 5+ days (no surcharge)

Email:

Email:

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX				PRESERVATION METHOD				SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED							COMMENTS
			WATER	SOIL	AIR	OTHER	ICE	ACID	OTHER	NONE			Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	
19	0906_QC101_250205	5/02/2025	X				X						X							

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147, Dangar, NSW, 2: ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO: [redacted]

Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email: [redacted]

Email

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX				PRESERVATION METHOD				SAMPLE TIME	NO. OF CONTAINERS	ANALYSIS REQUIRED							COMMENTS
			WATER	SOIL	AIR	OTHER	ICE	ACID	OTHER	NONE			Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	
20	0906_MW214_250205	5/02/2025	X				X				12:10:00 PM		X							
21	0906_SW311_250205	5/02/2025	X				X				12:13:00 PM			X						
22	0906_MW235A_250205	5/02/2025	X				X				2:05:00 PM								X	
23	0906_MW235B_250205	5/02/2025	X				X				2:20:00 PM								X	
24	0906_QC301_250205	5/02/2025	X				X				4:30:00 PM		X							
25	0906_MW265_15.0_240206	6/02/2025	X				X				7:45:00 AM		X							
26	0906_MW266_31_240206	6/02/2025	X				X				8:37:00 AM		X							
27	0906_MW267_44.5_240206	6/02/2025	X				X				9:15:00 AM		X							
28	0906_MW268_17_240206	6/02/2025	X				X				1:42:00 PM		X							
29	0906_MW269_31_240206	6/02/2025	X				X				2:43:00 PM		X							
30	0906_MW270_43.5_240206	6/02/2025	X				X				4:06:00 PM		X							
31	0906_SW262_250206	6/02/2025	X				X				5:12:00 PM		X							
32	0906_MW308_50.55_240206	6/02/2025	X				X				12:25:00 PM		X							
33	0906_MW302_47.9_240206	6/02/2025	X				X				2:05:00 PM		X							
34	0906_MW300_42.5_240206	6/02/2025	X				X				2:05:00 PM		X							

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2: ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (3 pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield NSW 2164

JACOBS PO [redacted]

Quote #

TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email

LAB #	SAMPLE ID	SAMPLE DATE	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE TIME	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)				Hold	COMMENTS
35	0906_QC101_250206	6/02/2025	X				X						X							
36	0906_MW243_43.75_240206	6/02/2025	X				X				4:25:00 PM		X							
37	0906_QC301_250206	6/02/2025	X				X				4:30:00 PM		X							
38	0906_MW253_45_250106	7/02/2025	X				X				7:49:00 AM		X							
39	0906_MW254_18.5_250106	7/02/2025	X				X				8:14:00 AM		X							
40	0906_MW246_35.15_250207	7/02/2025	X				X				12:16:00 PM		X							
41	0906_MW311_18.65_250207	7/02/2025	X				X				10:40:00 AM		X							
42	0906_MW310_50.2_250207	7/02/2025	X				X				11:15:00 AM		X							
43	0906_QC301_250207	7/02/2025	X				X				1:15:00 PM		X							
44	0906_QC501_250207	7/02/2025	X				X						X							

Receipt Detail (Lab Use ONLY)	Chill Method: Ice/ice bricks/none	Sample Temp at receipt	°C °C °C	Carrier Details : Courier/Post , Client	Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Shashini Gopallawa (Jacobs)	Signature:	SG	Date/Time	7/02/2025 2:40pm at Star Track Express at 5 Ball Place, East Wagga Wagga NSW 2650 for shipment to ALS Environmental	Received by:	Date/Time

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2503757**		
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: sandy.phan@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 10-Feb-2025 17:20	Issue Date	: 09-May-2025
Client Requested Due Date	: 18-Feb-2025	Scheduled Reporting Date	: **18-Feb-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 22.5'C 22.7'C 21.8'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 44 / 42

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- 12/02/2025 - This is an updated SRN which indicates the updated analysis schedule for this workorder.
- [09/05/2025] This is an updated SRN which indicates the updated sample IDs as requested by Grant Moylan on 08/05/2025.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample 0906_MW253_45_250106 received as 0906_MW253_45_250207.**
- **Sample 0906_MW254_18.5_250106 received as 0906_MW254_18.5_250207.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (31 analytes)	WATER - EP231X-LL PFAS - Full Suite (31 analytes) Low Level
ES2503757-001	03-Feb-2025 00:00	0906_QC301_250203			✓
ES2503757-002	04-Feb-2025 00:00	0906_QC301_250204			✓
ES2503757-003	04-Feb-2025 16:42	0906_SW234_250204		✓	
ES2503757-004	04-Feb-2025 14:57	0906_MW260_250204			✓
ES2503757-005	04-Feb-2025 13:41	0906_MW209_250204			✓
ES2503757-006	04-Feb-2025 11:22	0906_MW231_250204			✓
ES2503757-007	04-Feb-2025 07:04	0906_MW200_250204			✓
ES2503757-008	04-Feb-2025 14:08	0906_MW233_250204			✓
ES2503757-009	05-Feb-2025 07:37	0906_MW211_250205			✓
ES2503757-010	05-Feb-2025 07:22	0906_MW212_250205			✓
ES2503757-011	05-Feb-2025 07:49	0906_MW213_250205			✓
ES2503757-012	05-Feb-2025 08:10	0906_SW309_250205			✓
ES2503757-013	05-Feb-2025 10:11	0906_MW262_250205			✓
ES2503757-014	05-Feb-2025 10:58	0906_MW263_250205			✓
ES2503757-015	05-Feb-2025 11:39	0906_MW264_250205			✓
ES2503757-016	05-Feb-2025 14:29	0906_MW261_250205			✓
ES2503757-017	05-Feb-2025 14:10	0906_MW259_250205			✓
ES2503757-018	05-Feb-2025 15:28	0906_MW258_250205			✓
ES2503757-019	05-Feb-2025 00:00	0906_QC101_250205			✓
ES2503757-020	05-Feb-2025 12:10	0906_MW214_250205			✓
ES2503757-021	05-Feb-2025 12:13	0906_SW311_250205		✓	
ES2503757-022	05-Feb-2025 14:05	0906_MW235A_250205	✓		
ES2503757-023	05-Feb-2025 14:20	0906_MW235B_250205	✓		
ES2503757-024	05-Feb-2025 16:30	0906_QC301_250205			✓
ES2503757-025	06-Feb-2025 07:45	0906_MW265_240206			✓
ES2503757-026	06-Feb-2025 08:37	0906_MW266_240206			✓
ES2503757-027	06-Feb-2025 09:15	0906_MW267_240206			✓
ES2503757-028	06-Feb-2025 13:42	0906_MW268_240206			✓
ES2503757-029	06-Feb-2025 14:43	0906_MW269_240206			✓
ES2503757-030	06-Feb-2025 14:05	0906_MW270_240206			✓
ES2503757-031	06-Feb-2025 00:00	0906_SW262_250206			✓
ES2503757-032	06-Feb-2025 00:00	0906_MW308_240206			✓
ES2503757-033	06-Feb-2025 00:00	0906_MW302_240206			✓
ES2503757-034	06-Feb-2025 00:00	0906_MW300_240206			✓
ES2503757-035	06-Feb-2025 00:00	0906_QC101_250206			✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (31 analytes)	WATER - EP231X-LL PFAS - Full Suite (31 analytes) Low Level
ES2503757-036	06-Feb-2025 16:25	0906_MW243_240206			✓
ES2503757-037	06-Feb-2025 16:30	0906_QC301_250206			✓
ES2503757-038	06-Feb-2025 07:49	0906_MW253_250106			✓
ES2503757-039	06-Feb-2025 08:14	0906_MW254_250106			✓
ES2503757-040	07-Feb-2025 12:16	0906_MW246_250207			✓
ES2503757-041	07-Feb-2025 10:40	0906_MW311_250207			✓
ES2503757-042	07-Feb-2025 11:15	0906_MW310_250207			✓
ES2503757-043	07-Feb-2025 13:15	0906_QC301_250207			✓
ES2503757-044	07-Feb-2025 00:00	0906_QC501_250207			✓

Proactive Holding Time Report

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

Requested Deliverables

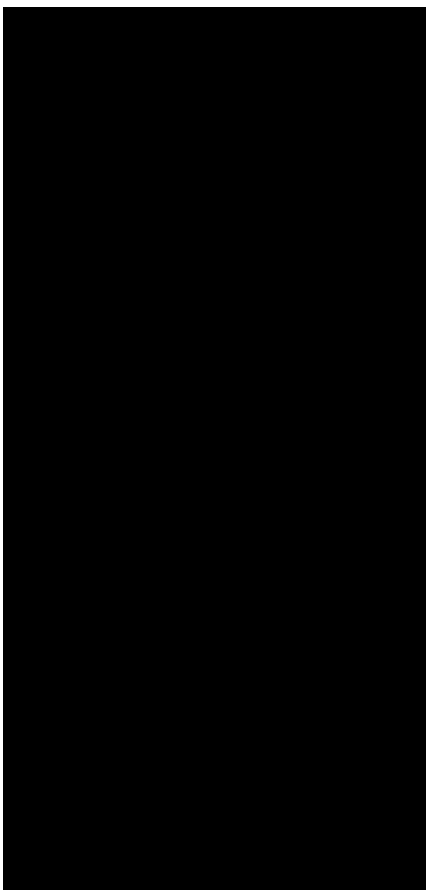
DANIEL COFFEY
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

DERP REPORTS
- EDI Format - ESDAT (ESDAT) Email

GRANT MOYLAN
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

JACOBS INVOICES
- A4 - AU Tax Invoice (INV) Email

LUIS ESTEBAN
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2503757**	Page	: 1 of 25
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 10-Feb-2025 17:20
Order number	: 540003363	Date Analysis Commenced	: 12-Feb-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:23
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 44		
No. of samples analysed	: 42		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- 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 (09/05/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 08/05/2025, for samples 13-18, 25-30, 32-34, 36, and 38-42. 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 or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250203	0906_QC301_250204	0906_SW234_250204	0906_MW260_250204	0906_MW209_250204
				Sampling date / time	03-Feb-2025 00:00	04-Feb-2025 00:00	04-Feb-2025 16:42	04-Feb-2025 14:57	04-Feb-2025 13:41
Compound	CAS Number	LOR	Unit		ES2503757-001	ES2503757-002	ES2503757-003	ES2503757-004	ES2503757-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		----	----	<0.02	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		----	----	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		----	----	<0.02	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
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	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		----	----	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		----	----	<0.02	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		----	----	<0.02	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	----	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	----	<0.01	<0.01
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		----	----	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		----	----	<0.02	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250203	0906_QC301_250204	0906_SW234_250204	0906_MW260_250204	0906_MW209_250204
				Sampling date / time	03-Feb-2025 00:00	04-Feb-2025 00:00	04-Feb-2025 16:42	04-Feb-2025 14:57	04-Feb-2025 13:41
Compound	CAS Number	LOR	Unit		ES2503757-001	ES2503757-002	ES2503757-003	ES2503757-004	ES2503757-005
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		----	----	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		----	----	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		----	----	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		----	----	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		----	----	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		----	----	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		----	----	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		----	----	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		----	----	<0.05	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L		----	----	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250203	0906_QC301_250204	0906_SW234_250204	0906_MW260_250204	0906_MW209_250204
				Sampling date / time	03-Feb-2025 00:00	04-Feb-2025 00:00	04-Feb-2025 16:42	04-Feb-2025 14:57	04-Feb-2025 13:41
Compound	CAS Number	LOR	Unit		ES2503757-001	ES2503757-002	ES2503757-003	ES2503757-004	ES2503757-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		----	----	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		----	----	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		----	----	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		----	----	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		----	----	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		----	----	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
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	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250203	0906_QC301_250204	0906_SW234_250204	0906_MW260_250204	0906_MW209_250204
				Sampling date / time	03-Feb-2025 00:00	04-Feb-2025 00:00	04-Feb-2025 16:42	04-Feb-2025 14:57	04-Feb-2025 13:41
Compound	CAS Number	LOR	Unit		ES2503757-001	ES2503757-002	ES2503757-003	ES2503757-004	ES2503757-005
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
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	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
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	0.005	µg/L		<0.005	<0.005	----	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		----	----	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Sum of PFAS	----	0.01	µg/L		----	----	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		----	----	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	<0.002	----	<0.002	<0.002
Sum of PFAS (WA DER List)	----	0.01	µg/L		----	----	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**99.6**	**93.6**	----	**91.7**	**103**
13C4-PFOS	----	0.02	%		----	----	**92.5**	----	----
13C8-PFOA	----	0.002	%		**97.5**	**86.7**	----	**92.5**	**88.2**
13C8-PFOA	----	0.02	%		----	----	**95.7**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW231_250204	0906_MW200_250204	0906_MW233_250204	0906_MW211_250205	0906_MW212_250205
				Sampling date / time	04-Feb-2025 11:22	04-Feb-2025 07:04	04-Feb-2025 14:08	05-Feb-2025 07:37	05-Feb-2025 07:22
Compound	CAS Number	LOR	Unit		ES2503757-006	ES2503757-007	ES2503757-008	ES2503757-009	ES2503757-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	**0.135**	**0.029**	<0.002	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	**0.182**	**0.039**	<0.002	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	**1.00**	**0.280**	<0.002	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	**0.031**	**0.009**	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	**0.294**	**0.221**	<0.002	<0.002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	**0.06**	**0.01**	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	**0.06**	<0.01	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	**0.058**	**0.015**	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	**0.211**	**0.055**	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	**0.025**	**0.006**	<0.002	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	**0.029**	**0.008**	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW231_250204	0906_MW200_250204	0906_MW233_250204	0906_MW211_250205	0906_MW212_250205
				Sampling date / time	04-Feb-2025 11:22	04-Feb-2025 07:04	04-Feb-2025 14:08	05-Feb-2025 07:37	05-Feb-2025 07:22
Compound	CAS Number	LOR	Unit		ES2503757-006	ES2503757-007	ES2503757-008	ES2503757-009	ES2503757-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	**2.08**	**0.672**	<0.002	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	**1.29**	**0.501**	<0.002	<0.002
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	**1.81**	**0.614**	<0.002	<0.002
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**96.6**	**90.5**	**86.7**	**98.8**	**93.6**
13C8-PFOA	----	0.002	%		**85.0**	**85.8**	**83.9**	**90.2**	**92.6**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW213_250205	0906_SW309_250205	0906_MW262_250205	0906_MW263_250205	0906_MW264_250205
				Sampling date / time	05-Feb-2025 07:49	05-Feb-2025 08:10	05-Feb-2025 10:11	05-Feb-2025 10:58	05-Feb-2025 11:39
Compound	CAS Number	LOR	Unit		ES2503757-011	ES2503757-012	ES2503757-013	ES2503757-014	ES2503757-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	**0.252**	**0.050**	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	**0.324**	**0.055**	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	<0.002	**1.18**	**0.237**	**0.016**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	**0.005**	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	**0.009**	**0.016**	**0.005**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	**0.09**	**0.02**	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	**0.08**	**0.05**	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	**0.101**	**0.032**	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	**0.323**	**0.072**	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	**0.049**	**0.019**	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	**0.034**	**0.009**	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	**0.002**	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW213_250205	0906_SW309_250205	0906_MW262_250205	0906_MW263_250205	0906_MW264_250205
				Sampling date / time	05-Feb-2025 07:49	05-Feb-2025 08:10	05-Feb-2025 10:11	05-Feb-2025 10:58	05-Feb-2025 11:39
Compound	CAS Number	LOR	Unit		ES2503757-011	ES2503757-012	ES2503757-013	ES2503757-014	ES2503757-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	<0.002	**2.45**	**0.562**	**0.021**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	<0.002	**1.19**	**0.253**	**0.021**
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	<0.002	**2.03**	**0.485**	**0.021**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**95.7**	**97.0**	**98.1**	**91.1**	**94.0**
13C8-PFOA	----	0.002	%		**82.1**	**92.2**	**81.1**	**83.9**	**90.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW261_250205	0906_MW259_250205	0906_MW258_250205	0906_QC101_250205	0906_MW214_250205
				Sampling date / time	05-Feb-2025 14:29	05-Feb-2025 14:10	05-Feb-2025 15:28	05-Feb-2025 00:00	05-Feb-2025 12:10
Compound	CAS Number	LOR	Unit		ES2503757-016	ES2503757-017	ES2503757-018	ES2503757-019	ES2503757-020
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	**0.017**	**0.004**	**0.003**	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	**0.003**	**0.006**	**0.008**	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.004**	**0.037**	**0.037**	**0.040**	**0.004**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	**0.088**	**0.014**	**0.014**	<0.002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	**0.04**	<0.01	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	**0.025**	<0.002	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	**0.012**	<0.002	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	**0.021**	<0.002	<0.002	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	**0.009**	<0.002	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	**0.004**	**0.004**	**0.004**	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	**0.003**	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW261_250205	0906_MW259_250205	0906_MW258_250205	0906_QC101_250205	0906_MW214_250205
				Sampling date / time	05-Feb-2025 14:29	05-Feb-2025 14:10	05-Feb-2025 15:28	05-Feb-2025 00:00	05-Feb-2025 12:10
Compound	CAS Number	LOR	Unit		ES2503757-016	ES2503757-017	ES2503757-018	ES2503757-019	ES2503757-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.004**	**0.259**	**0.065**	**0.069**	**0.004**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.004**	**0.125**	**0.051**	**0.054**	**0.004**
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.004**	**0.249**	**0.055**	**0.057**	**0.004**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**96.7**	**86.9**	**95.2**	**97.3**	**92.5**
13C8-PFOA	----	0.002	%		**85.5**	**87.4**	**82.5**	**95.4**	**91.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW311_250205	0906_QC301_250205	0906_MW265_240206	0906_MW266_240206	0906_MW267_240206
				Sampling date / time	05-Feb-2025 12:13	05-Feb-2025 16:30	06-Feb-2025 07:45	06-Feb-2025 08:37	06-Feb-2025 09:15
Compound	CAS Number	LOR	Unit		ES2503757-021	ES2503757-024	ES2503757-025	ES2503757-026	ES2503757-027
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		----	<0.002	**0.002**	<0.002	**0.003**
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		<0.02	----	----	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		----	<0.002	**0.003**	<0.002	**0.003**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		----	<0.002	**0.019**	**0.013**	**0.023**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
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	0.002	µg/L		----	<0.002	**0.017**	**0.008**	**0.014**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		----	<0.01	<0.01	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		----	<0.01	<0.01	<0.01	<0.01
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		----	<0.002	**0.009**	<0.002	**0.005**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW311_250205	0906_QC301_250205	0906_MW265_240206	0906_MW266_240206	0906_MW267_240206
				Sampling date / time	05-Feb-2025 12:13	05-Feb-2025 16:30	06-Feb-2025 07:45	06-Feb-2025 08:37	06-Feb-2025 09:15
Compound	CAS Number	LOR	Unit		ES2503757-021	ES2503757-024	ES2503757-025	ES2503757-026	ES2503757-027
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		----	<0.002	**0.005**	<0.002	**0.006**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		----	<0.002	**0.008**	<0.002	**0.003**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		----	<0.002	**0.004**	<0.002	**0.004**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW311_250205	0906_QC301_250205	0906_MW265_240206	0906_MW266_240206	0906_MW267_240206
				Sampling date / time	05-Feb-2025 12:13	05-Feb-2025 16:30	06-Feb-2025 07:45	06-Feb-2025 08:37	06-Feb-2025 09:15
Compound	CAS Number	LOR	Unit		ES2503757-021	ES2503757-024	ES2503757-025	ES2503757-026	ES2503757-027
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		----	<0.002	<0.002	<0.002	<0.002
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	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW311_250205	0906_QC301_250205	0906_MW265_240206	0906_MW266_240206	0906_MW267_240206
				Sampling date / time	05-Feb-2025 12:13	05-Feb-2025 16:30	06-Feb-2025 07:45	06-Feb-2025 08:37	06-Feb-2025 09:15
Compound	CAS Number	LOR	Unit		ES2503757-021	ES2503757-024	ES2503757-025	ES2503757-026	ES2503757-027
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		----	**0.006**	<0.005	**0.022**	<0.005
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	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
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	0.005	µg/L		----	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		----	**0.006**	**0.067**	**0.043**	**0.061**
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		----	<0.002	**0.036**	**0.021**	**0.037**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		----	**0.006**	**0.064**	**0.043**	**0.058**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		----	**88.1**	**99.8**	**95.0**	**97.5**
13C4-PFOS	----	0.02	%		**95.7**	----	----	----	----
13C8-PFOA	----	0.002	%		----	**89.3**	**96.5**	**89.5**	**87.8**
13C8-PFOA	----	0.02	%		**97.0**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW268_240206	0906_MW269_240206	0906_MW270_240206	0906_SW262_250206	0906_MW308_240206
				Sampling date / time	06-Feb-2025 13:42	06-Feb-2025 14:43	06-Feb-2025 14:05	06-Feb-2025 00:00	06-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2503757-028	ES2503757-029	ES2503757-030	ES2503757-031	ES2503757-032
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		**0.005**	**0.012**	<0.002	<0.002	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		**0.004**	**0.014**	<0.002	<0.002	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.026**	**0.126**	**0.004**	<0.002	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	**0.006**	<0.002	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	**0.038**	<0.002	<0.002	<0.002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		**0.003**	**0.006**	<0.002	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		**0.007**	**0.026**	<0.002	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	**0.004**	<0.002	<0.002	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	**0.007**	<0.002	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW268_240206	0906_MW269_240206	0906_MW270_240206	0906_SW262_250206	0906_MW308_240206
				Sampling date / time	06-Feb-2025 13:42	06-Feb-2025 14:43	06-Feb-2025 14:05	06-Feb-2025 00:00	06-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2503757-028	ES2503757-029	ES2503757-030	ES2503757-031	ES2503757-032
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.045**	**0.239**	**0.004**	<0.002	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.026**	**0.164**	**0.004**	<0.002	<0.002
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.041**	**0.219**	**0.004**	<0.002	<0.002
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**91.8**	**103**	**96.8**	**98.3**	**99.9**
13C8-PFOA	----	0.002	%		**85.1**	**82.6**	**86.6**	**86.3**	**90.9**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW302_240206	0906_MW300_240206	0906_QC101_250206	0906_MW243_240206	0906_QC301_250206
				Sampling date / time	06-Feb-2025 00:00	06-Feb-2025 00:00	06-Feb-2025 00:00	06-Feb-2025 16:25	06-Feb-2025 16:30
Compound	CAS Number	LOR	Unit		ES2503757-033	ES2503757-034	ES2503757-035	ES2503757-036	ES2503757-037
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	**0.056**	**0.071**	<0.002	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	**0.023**	**0.030**	<0.002	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	**0.083**	**0.101**	<0.002	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	**0.007**	**0.008**	<0.002	<0.002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	**0.02**	**0.02**	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	**0.017**	**0.016**	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	**0.043**	**0.050**	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	**0.004**	**0.005**	<0.002	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	**0.002**	**0.003**	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW302_240206	0906_MW300_240206	0906_QC101_250206	0906_MW243_240206	0906_QC301_250206
				Sampling date / time	06-Feb-2025 00:00	06-Feb-2025 00:00	06-Feb-2025 00:00	06-Feb-2025 16:25	06-Feb-2025 16:30
Compound	CAS Number	LOR	Unit		ES2503757-033	ES2503757-034	ES2503757-035	ES2503757-036	ES2503757-037
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	**0.255**	**0.304**	<0.002	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	**0.090**	**0.109**	<0.002	<0.002
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	**0.212**	**0.254**	<0.002	<0.002
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**95.1**	**98.8**	**106**	**101**	**89.6**
13C8-PFOA	----	0.002	%		**89.3**	**85.3**	**95.3**	**88.2**	**83.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW253_250106	0906_MW254_250106	0906_MW246_250207	0906_MW311_250207	0906_MW310_250207
				Sampling date / time	06-Feb-2025 07:49	06-Feb-2025 08:14	07-Feb-2025 12:16	07-Feb-2025 10:40	07-Feb-2025 11:15
Compound	CAS Number	LOR	Unit		ES2503757-038	ES2503757-039	ES2503757-040	ES2503757-041	ES2503757-042
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		**0.002**	**0.016**	<0.002	**0.056**	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		**0.004**	**0.015**	<0.002	**0.088**	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.026**	**0.143**	<0.002	**0.800**	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	**0.013**	<0.002	**0.002**	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		**0.015**	**0.160**	<0.002	**0.002**	<0.002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	**0.01**	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	**0.02**	<0.01	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	**0.077**	<0.002	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		**0.004**	**0.065**	<0.002	**0.022**	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	**0.051**	<0.002	**0.003**	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		**0.003**	**0.190**	<0.002	<0.002	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	**0.006**	<0.002	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW253_250106	0906_MW254_250106	0906_MW246_250207	0906_MW311_250207	0906_MW310_250207
				Sampling date / time	06-Feb-2025 07:49	06-Feb-2025 08:14	07-Feb-2025 12:16	07-Feb-2025 10:40	07-Feb-2025 11:15
Compound	CAS Number	LOR	Unit		ES2503757-038	ES2503757-039	ES2503757-040	ES2503757-041	ES2503757-042
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	**0.027**	**0.055**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.054**	**0.756**	<0.002	**1.01**	**0.055**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.041**	**0.303**	<0.002	**0.802**	<0.002
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.050**	**0.722**	<0.002	**0.910**	**0.055**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**93.8**	**98.7**	**95.3**	**96.1**	**101**
13C8-PFOA	----	0.002	%		**94.5**	**90.7**	**88.3**	**91.9**	**89.8**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250207	0906_QC501_250207	----	----	----
				Sampling date / time	07-Feb-2025 13:15	07-Feb-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2503757-043	ES2503757-044	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250207	0906_QC501_250207	----	----	----
				Sampling date / time	07-Feb-2025 13:15	07-Feb-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2503757-043	ES2503757-044	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	<0.002	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	<0.002	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**92.5**	**87.3**	----	----	----
13C8-PFOA	----	0.002	%		**93.6**	**94.8**	----	----	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2503757**	Page	: 1 of 7
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 10-Feb-2025
Order number	: 540003363	Date Analysis Commenced	: 12-Feb-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 44		
No. of samples analysed	: 42		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

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

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6371260)									
ES2503757-007	0906_MW200_250204	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	0.135	0.130	4.0	0% - 20%
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	0.182	0.152	17.5	0% - 20%
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	1.00	0.864	15.0	0% - 20%
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	0.031	0.024	28.1	0% - 50%
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.294	0.272	7.8	0% - 20%
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	0.06	0.06	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6371260)									
ES2503757-007	0906_MW200_250204	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	0.058	0.048	18.0	0% - 20%
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	0.211	0.191	10.0	0% - 20%
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	0.025	0.020	19.4	0% - 50%
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	0.029	0.028	4.1	0% - 50%
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	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: 6371260) - continued									
ES2503757-007	0906_MW200_250204	EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	0.06	0.05	24.7	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6371260)									
ES2503757-007	0906_MW200_250204	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6371260)									
ES2503757-007	0906_MW200_250204	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6370781)								
EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L	<0.02	0.25 µg/L	96.5	70.0	130
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	80.2	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	88.5	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	78.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	86.7	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	85.9	65.0	140
EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L	<0.02	0.25 µg/L	88.2	70.0	130
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	87.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6371260)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	105	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	105	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	126	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	119	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	107	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	108	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6371261)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	98.3	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	89.6	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	90.8	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	83.3	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	104	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	97.1	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6370781)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	77.1	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	88.6	71.0	133

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6370781) - continued								
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	94.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.1	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.7	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	87.9	71.0	132
EP231X: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L	<0.05	0.25 µg/L	85.8	62.9	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6371260)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	122	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	118	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	111	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	113	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	104	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	111	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	119	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	102	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	103	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	102	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	114	65.6	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6371261)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	76.4	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	92.6	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	100	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	109	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	103	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	107	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	115	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	104	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	98.1	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	84.6	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	103	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	117	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6370781)								

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: 6370781) - continued								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	98.2	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	93.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	75.8	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.2	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	86.1	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6371260)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	101	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	121	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	100	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	105	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	119	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	111	65.0	136
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	116	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6371261)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	110	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	111	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	118	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	104	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	115	65.0	136
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6370781)								

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: 6370781) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	80.8	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	93.1	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	110	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	108	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6371260)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	83.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	111	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	99.7	75.2	137
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6371261)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	90.8	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	112	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	103	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	87.7	75.2	137

Matrix Spike (MS) Report

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

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2503757**	Page	: 1 of 9
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 10-Feb-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	: [redacted]	No. of samples received	: 44
Order number	: 540003363	No. of samples analysed	: 42

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	40	2.50	10.00	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	0	40	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250203	**03-Feb-2025**	**14-Feb-2025**	02-Aug-2025	✓	**17-Feb-2025**	02-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW234_250204	**04-Feb-2025**	**12-Feb-2025**	03-Aug-2025	✓	**14-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250204, 0906_MW260_250204, 0906_MW209_250204, 0906_MW231_250204, 0906_MW200_250204, 0906_MW233_250204	**04-Feb-2025**	**14-Feb-2025**	03-Aug-2025	✓	**17-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW311_250205	**05-Feb-2025**	**12-Feb-2025**	04-Aug-2025	✓	**14-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW211_250205, 0906_MW212_250205, 0906_MW213_250205, 0906_SW309_250205, 0906_MW262_250205, 0906_MW263_250205, 0906_MW264_250205, 0906_MW261_250205, 0906_MW259_250205, 0906_MW258_250205, 0906_QC101_250205, 0906_MW214_250205, 0906_QC301_250205	**05-Feb-2025**	**14-Feb-2025**	04-Aug-2025	✓	**17-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0906_MW265_240206, 0906_MW266_240206, 0906_MW267_240206, 0906_MW268_240206, 0906_MW269_240206, 0906_MW270_240206, 0906_SW262_250206, 0906_MW308_240206, 0906_MW302_240206, 0906_MW300_240206, 0906_QC101_250206, 0906_MW243_240206, 0906_QC301_250206, 0906_MW253_250106, 0906_MW254_250106	**06-Feb-2025**	**14-Feb-2025**	05-Aug-2025	✓	**17-Feb-2025**	05-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL)							
0906_MW246_250207, 0906_MW311_250207, 0906_MW310_250207, 0906_QC301_250207, 0906_QC501_250207	**07-Feb-2025**	**14-Feb-2025**	06-Aug-2025	✓	**17-Feb-2025**	06-Aug-2025	✓

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-LL) 0906_QC301_250203	**03-Feb-2025**	**14-Feb-2025**	02-Aug-2025	✓	**17-Feb-2025**	02-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW234_250204	**04-Feb-2025**	**12-Feb-2025**	03-Aug-2025	✓	**14-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250204, 0906_MW260_250204, 0906_MW209_250204, 0906_MW231_250204, 0906_MW200_250204, 0906_MW233_250204	**04-Feb-2025**	**14-Feb-2025**	03-Aug-2025	✓	**17-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW311_250205	**05-Feb-2025**	**12-Feb-2025**	04-Aug-2025	✓	**14-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW211_250205, 0906_MW212_250205, 0906_MW213_250205, 0906_SW309_250205, 0906_MW262_250205, 0906_MW263_250205, 0906_MW264_250205, 0906_MW261_250205, 0906_MW259_250205, 0906_MW258_250205, 0906_QC101_250205, 0906_MW214_250205, 0906_QC301_250205	**05-Feb-2025**	**14-Feb-2025**	04-Aug-2025	✓	**17-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW265_240206, 0906_MW266_240206, 0906_MW267_240206, 0906_MW268_240206, 0906_MW269_240206, 0906_MW270_240206, 0906_SW262_250206, 0906_MW308_240206, 0906_MW302_240206, 0906_MW300_240206, 0906_QC101_250206, 0906_MW243_240206, 0906_QC301_250206, 0906_MW253_250106, 0906_MW254_250106	**06-Feb-2025**	**14-Feb-2025**	05-Aug-2025	✓	**17-Feb-2025**	05-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW246_250207, 0906_MW311_250207, 0906_MW310_250207, 0906_QC301_250207, 0906_QC501_250207	**07-Feb-2025**	**14-Feb-2025**	06-Aug-2025	✓	**17-Feb-2025**	06-Aug-2025	✓

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-LL) 0906_QC301_250203	**03-Feb-2025**	**14-Feb-2025**	02-Aug-2025	✓	**17-Feb-2025**	02-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW234_250204	**04-Feb-2025**	**12-Feb-2025**	03-Aug-2025	✓	**14-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250204, 0906_MW260_250204, 0906_MW209_250204, 0906_MW231_250204, 0906_MW200_250204, 0906_MW233_250204	**04-Feb-2025**	**14-Feb-2025**	03-Aug-2025	✓	**17-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW311_250205	**05-Feb-2025**	**12-Feb-2025**	04-Aug-2025	✓	**14-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW211_250205, 0906_MW212_250205, 0906_MW213_250205, 0906_SW309_250205, 0906_MW262_250205, 0906_MW263_250205, 0906_MW264_250205, 0906_MW261_250205, 0906_MW259_250205, 0906_MW258_250205, 0906_QC101_250205, 0906_MW214_250205, 0906_QC301_250205	**05-Feb-2025**	**14-Feb-2025**	04-Aug-2025	✓	**17-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW265_240206, 0906_MW266_240206, 0906_MW267_240206, 0906_MW268_240206, 0906_MW269_240206, 0906_MW270_240206, 0906_SW262_250206, 0906_MW308_240206, 0906_MW302_240206, 0906_MW300_240206, 0906_QC101_250206, 0906_MW243_240206, 0906_QC301_250206, 0906_MW253_250106, 0906_MW254_250106	**06-Feb-2025**	**14-Feb-2025**	05-Aug-2025	✓	**17-Feb-2025**	05-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW246_250207, 0906_MW311_250207, 0906_MW310_250207, 0906_QC301_250207, 0906_QC501_250207	**07-Feb-2025**	**14-Feb-2025**	06-Aug-2025	✓	**17-Feb-2025**	06-Aug-2025	✓

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-LL) 0906_QC301_250203	**03-Feb-2025**	**14-Feb-2025**	02-Aug-2025	✓	**17-Feb-2025**	02-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW234_250204	**04-Feb-2025**	**12-Feb-2025**	03-Aug-2025	✓	**14-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250204, 0906_MW260_250204, 0906_MW209_250204, 0906_MW231_250204, 0906_MW200_250204, 0906_MW233_250204	**04-Feb-2025**	**14-Feb-2025**	03-Aug-2025	✓	**17-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW311_250205	**05-Feb-2025**	**12-Feb-2025**	04-Aug-2025	✓	**14-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW211_250205, 0906_MW212_250205, 0906_MW213_250205, 0906_SW309_250205, 0906_MW262_250205, 0906_MW263_250205, 0906_MW264_250205, 0906_MW261_250205, 0906_MW259_250205, 0906_MW258_250205, 0906_QC101_250205, 0906_MW214_250205, 0906_QC301_250205	**05-Feb-2025**	**14-Feb-2025**	04-Aug-2025	✓	**17-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW265_240206, 0906_MW266_240206, 0906_MW267_240206, 0906_MW268_240206, 0906_MW269_240206, 0906_MW270_240206, 0906_SW262_250206, 0906_MW308_240206, 0906_MW302_240206, 0906_MW300_240206, 0906_QC101_250206, 0906_MW243_240206, 0906_QC301_250206, 0906_MW253_250106, 0906_MW254_250106	**06-Feb-2025**	**14-Feb-2025**	05-Aug-2025	✓	**17-Feb-2025**	05-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW246_250207, 0906_MW311_250207, 0906_MW310_250207, 0906_QC301_250207, 0906_QC501_250207	**07-Feb-2025**	**14-Feb-2025**	06-Aug-2025	✓	**17-Feb-2025**	06-Aug-2025	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250203	**03-Feb-2025**	**14-Feb-2025**	02-Aug-2025	✓	**17-Feb-2025**	02-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW234_250204	**04-Feb-2025**	**12-Feb-2025**	03-Aug-2025	✓	**14-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_QC301_250204, 0906_MW260_250204, 0906_MW209_250204, 0906_MW231_250204, 0906_MW200_250204, 0906_MW233_250204	**04-Feb-2025**	**14-Feb-2025**	03-Aug-2025	✓	**17-Feb-2025**	03-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW311_250205	**05-Feb-2025**	**12-Feb-2025**	04-Aug-2025	✓	**14-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW211_250205, 0906_MW212_250205, 0906_MW213_250205, 0906_SW309_250205, 0906_MW262_250205, 0906_MW263_250205, 0906_MW264_250205, 0906_MW261_250205, 0906_MW259_250205, 0906_MW258_250205, 0906_QC101_250205, 0906_MW214_250205, 0906_QC301_250205	**05-Feb-2025**	**14-Feb-2025**	04-Aug-2025	✓	**17-Feb-2025**	04-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW265_240206, 0906_MW266_240206, 0906_MW267_240206, 0906_MW268_240206, 0906_MW269_240206, 0906_MW270_240206, 0906_SW262_250206, 0906_MW308_240206, 0906_MW302_240206, 0906_MW300_240206, 0906_QC101_250206, 0906_MW243_240206, 0906_QC301_250206, 0906_MW253_250106, 0906_MW254_250106	**06-Feb-2025**	**14-Feb-2025**	05-Aug-2025	✓	**17-Feb-2025**	05-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW246_250207, 0906_MW311_250207, 0906_MW310_250207, 0906_QC301_250207, 0906_QC501_250207	**07-Feb-2025**	**14-Feb-2025**	06-Aug-2025	✓	**17-Feb-2025**	06-Aug-2025	✓

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-LL	1	40	**2.50**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	5	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	0	40	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2309

Ph: +61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 pages)

LAB: ALS Environmental 277-289 Woodpark Rd, Smithfield NSW 2164
JACOBS PO#: [redacted]
Quote #:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	[redacted]
Jacobs Reference	IS419100

Email: [redacted]
Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	MATRIX: SOIL	MATRIX: AIR	MATRIX: OTHER	PRESERVATION METHOD: ICE	PRESERVATION METHOD: ACID	PRESERVATION METHOD: OTHER	PRESERVATION METHOD: NONE	SAMPLE DATE	No. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	ANALYSIS REQUIRED: Standard PFAS (Standard Suite)	ANALYSIS REQUIRED: PFAS (Reduced Suite)	ANALYSIS REQUIRED: Hold	ANALYSIS REQUIRED:	ANALYSIS REQUIRED:	COMMENTS
1	0906_SW250_250227		X				X				27/02/2025		X						
2	0906_SW263_250227		X				X				27/02/2025		X						
3	0906_SW287_250227		X				X				27/02/2025		X						
4	0906_SW312_250228		X				X				28/02/2025		X						

Receipt Detail (Lab Use ONLY)	Chill Method: ICE	Sample Temp at receipt	°C	26/02/2025	Carrier Details: Courier Post	Client	Packaging (circle): Hard Esky, Foam Esky, Box/bag/other
Relinquished by:	Sophia Bolton	Signature:	SGBolton	Date/Time	4/03/2025	Received by:	Date/Time

Environmental Division
Sydney
Work Order Reference
ES2506537

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506537**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: sandy.phan@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 07-Mar-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 4 / 4

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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-LL PFAS - Full Suite (31 analytes) Low Level
ES2506537-001	27-Feb-2025 00:00	0906_SW260_250227	✓
ES2506537-002	27-Feb-2025 00:00	0906_SW263_250227	✓
ES2506537-003	27-Feb-2025 00:00	0906_SW287_250227	✓
ES2506537-004	28-Feb-2025 00:00	0906_SW312_250228	✓

Proactive Holding Time Report

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

Requested Deliverables

DERP REPORTS
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

ELLEN MARNOCK
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

GRANT MOYLAN
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

JACOBS INVOICES
- A4 - AU Tax Invoice (INV) Email

SOPHIA BERLYN
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

[redacted]

CERTIFICATE OF ANALYSIS

Work Order	: **ES2506537**	Page	: 1 of 5
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 13-Mar-2025 13:40
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 4		
No. of samples analysed	: 4		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW260_250227	0906_SW263_250227	0906_SW287_250227	0906_SW312_250228	----
				Sampling date / time	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	28-Feb-2025 00:00	----
Compound	CAS Number	LOR	Unit		ES2506537-001	ES2506537-002	ES2506537-003	ES2506537-004	--------
					Result	Result	Result	Result	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.005**	<0.002	**0.003**	**0.002**	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		**0.005**	<0.002	<0.002	<0.002	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0906_SW260_250227	0906_SW263_250227	0906_SW287_250227	0906_SW312_250228	----
			Sampling date / time	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	28-Feb-2025 00:00	----
Compound	CAS Number	LOR	Unit	ES2506537-001	ES2506537-002	ES2506537-003	ES2506537-004	--------
				Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	<0.002	<0.002	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	<0.002	<0.002	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	<0.002	<0.002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.002	µg/L	**0.010**	<0.002	**0.003**	**0.002**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L	**0.010**	<0.002	**0.003**	**0.002**	----
Sum of PFAS (WA DER List)	----	0.002	µg/L	**0.010**	<0.002	**0.003**	**0.002**	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.002	%	**103**	**107**	**110**	**103**	----
13C8-PFOA	----	0.002	%	**100**	**95.4**	**92.9**	**92.9**	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506537**	Page	: 1 of 7
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	[redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 13-Mar-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 4		
No. of samples analysed	: 4		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	Sydney Organics, Smithfield, NSW

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: 6425942)									
ES2506537-002	0906_SW263_250227	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.005	86.7	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.003	0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6425942) - continued									
ES2506594-005	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6425942)									
ES2506537-002	0906_SW263_250227	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942)									
ES2506537-002	0906_SW263_250227	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942) - continued									
ES2506537-002	0906_SW263_250227	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6425942)									
ES2506537-002	0906_SW263_250227	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425942)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	125	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	94.9	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	99.0	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	108	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	105	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	98.0	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	100	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	105	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	108	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	96.2	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.5	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	90.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	98.8	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	104	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	127	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	126	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	112	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	94.3	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	121	65.0	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942) - continued								
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	93.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	110	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	94.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	77.2	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	122	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	94.0	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	79.7	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	100	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	123	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	110	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	101	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	98.6	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	98.0	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	109	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	94.7	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	106	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	105	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	107	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	107	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	101	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	85.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	99.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	114	67.0	137

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: 6425942) - continued							
ES2506554-002	Anonymous	EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	100	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	82.4	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	93.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	109	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	119	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	93.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	101	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	86.3	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	118	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	86.1	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506537**	Page	: 1 of 4
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 13-Mar-2025
Sampler	: [redacted]	No. of samples received	: 4
Order number	: 540003363	No. of samples analysed	: 4

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, 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-LL) 0906_SW260_250227, 0906_SW263_250227, 0906_SW287_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW312_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_SW260_250227, 0906_SW263_250227, 0906_SW287_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW312_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL) 0906_SW260_250227, 0906_SW263_250227, 0906_SW287_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW312_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_SW260_250227, 0906_SW263_250227, 0906_SW287_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW312_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL) 0906_SW260_250227, 0906_SW263_250227, 0906_SW287_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW312_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓

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-LL	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	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 concentrated, combined with an equal volume of reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.4, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
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.

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: + 61 2 4024 2600
PO Box 2147, Dangar, NSW, 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (X pages)

LAB: ALS Environmental - 277 289 Woodpark Rd Smithfield N
JACOBS PO:
Quote #:

TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	[redacted]
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]
Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
1	0906_MW238_50.3_250226		X				X				26/02/2025		X							
2	0906_MW239_17.6_250226		X				X				26/02/2025		X							

Receipt Detail (Lab Use Only):	Chill Method:	Ice	Sample Temp at receipt	°C	°C	26/02/2025	Carrier Details:	Courier/Post	Client	Packaging (circle):	Hard Esky / Foam Esky / Box/bag/other
Relinquished by:	Sophia Berlyn	Signature:	SGBerlyn	Date/Time	4/03/2025	Received by:				Date/Time	

FA 6/3/25 MA

Environmental Division
Sydney
Work Order Reference
ES2506554

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506554**		
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: sandy.phan@alsglobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 09-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'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
- [09/08/2025] This is an updated SRN which indicates the updated sample IDs as requested by Grant Moylan.
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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-LL PFAS - Full Suite (31 analytes) Low Level
ES2506554-001	26-Feb-2025 00:00	0906_MW238_250226	✓
ES2506554-002	26-Feb-2025 00:00	0906_MW239_250226	✓

Proactive Holding Time Report

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

Requested Deliverables

DANIEL COFFEY

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

DERP REPORTS

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

ELLEN MARNOCK

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

GRANT MOYLAN

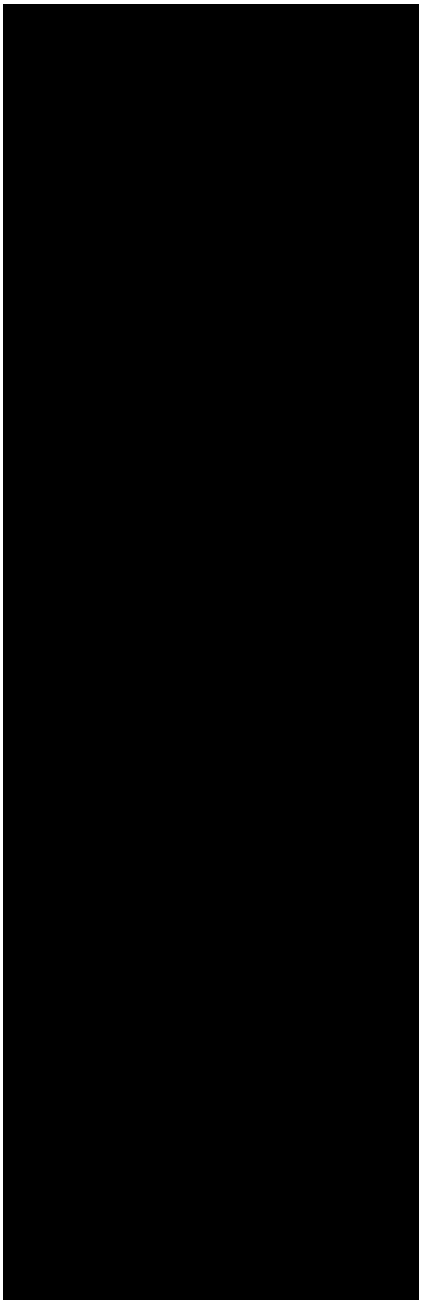
- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- A4 - AU Tax Invoice (INV)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

JACOBS INVOICES

- A4 - AU Tax Invoice (INV)	Email

SOPHIA BERLYN

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506554**	Page	: 1 of 5
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:32
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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 (09/05/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 08/05/2025. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW238_250226	0906_MW239_250226	----	----	----
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2506554-001	ES2506554-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW238_250226	0906_MW239_250226	----	----	----
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2506554-001	ES2506554-002	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		**0.036**	<0.005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.036**	<0.002	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.036**	<0.002	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**107**	**96.0**	----	----	----
13C8-PFOA	----	0.002	%		**93.7**	**95.7**	----	----	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506554**	Page	: 1 of 7
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	[redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.005	86.7	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.003	0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6425942) - continued									
ES2506594-005	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942) - continued									
ES2506537-002	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425942)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	125	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	94.9	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	99.0	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	108	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	105	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	98.0	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	100	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	105	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	108	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	96.2	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.5	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	90.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	98.8	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	104	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	127	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	126	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	112	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	94.3	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	121	65.0	136

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: 6425942) - continued								
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	93.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	110	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	94.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	77.2	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	0906_MW239_250226	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	122	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	94.0	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	79.7	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	100	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	123	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	110	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	101	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)							
ES2506554-002	0906_MW239_250226	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	98.6	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	98.0	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	109	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	94.7	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	106	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	105	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	107	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	107	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	101	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	85.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	99.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)							
ES2506554-002	0906_MW239_250226	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	114	67.0	137

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: 6425942) - continued							
ES2506554-002	0906_MW239_250226	EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	100	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	82.4	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	93.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	109	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	119	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	93.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	0906_MW239_250226	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	101	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	86.3	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	118	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	86.1	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506554**	Page	: 1 of 4
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	: [redacted]	No. of samples received	: 2
Order number	: 540003363	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, where applicable to the methodology, 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-LL)							
0906_MW238_250226, 0906_MW239_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-LL)							
0906_MW238_250226, 0906_MW239_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL)							
0906_MW238_250226, 0906_MW239_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL)							
0906_MW238_250226, 0906_MW239_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL)							
0906_MW238_250226, 0906_MW239_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓

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-LL	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147 Dandar NSW 2350 ABN 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (X pages)

TURNAROUND: 5 + days (no surcharge)

Lab: ALS Environmental 277-283 Woodpark Rd Smithfield
Jacobs PO: [redacted]
Quote #:
Email: [redacted]
Email:

Project ID (ES/Ext)	NSW_0906_PFASOMP_25
Site ID (ES/Ext)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low (Lower PFAS Standard Suite)	Standard PFAS Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
1	0906_MW241_69.15_250228		X				X				28/02/2025		X							
2	0906_MW242_49.5_250228		X				X				28/02/2025		X							
3	0906_QC101_250228		X				X				28/02/2025		X							

Receipt Detail (Lab Use)	Chill Method:	Ice	Sample Temp at receipt	°C	°C	28/02/2025	Carrier Details:	Courier Post	Client	Packaging (circle):	Hard Esky Foam Esky Box/bag Other
Relinquished by:	Sophia Berlyn	Signature:	SOBerlyn	Date/Time	4/03/2025	Received by:				Date/Time	

Environmental Division
Sydney
Work Order Reference
ES2506583

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506583**		
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 09-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- [09/05/2025] This is an updated SRN which indicates the updated IDs as requested by Grant Moylan.
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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-LL PFAS - Full Suite (31 analytes) Low Level
ES2506583-001	28-Feb-2025 00:00	0906_MW241_250228	✓
ES2506583-002	28-Feb-2025 00:00	0906_MW242_250228	✓
ES2506583-003	28-Feb-2025 00:00	0906_QC101_250228	✓

Proactive Holding Time Report

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

Requested Deliverables

DANIEL COFFEY

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

DERP REPORTS

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

ELLEN MARNOCK

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

GRANT MOYLAN

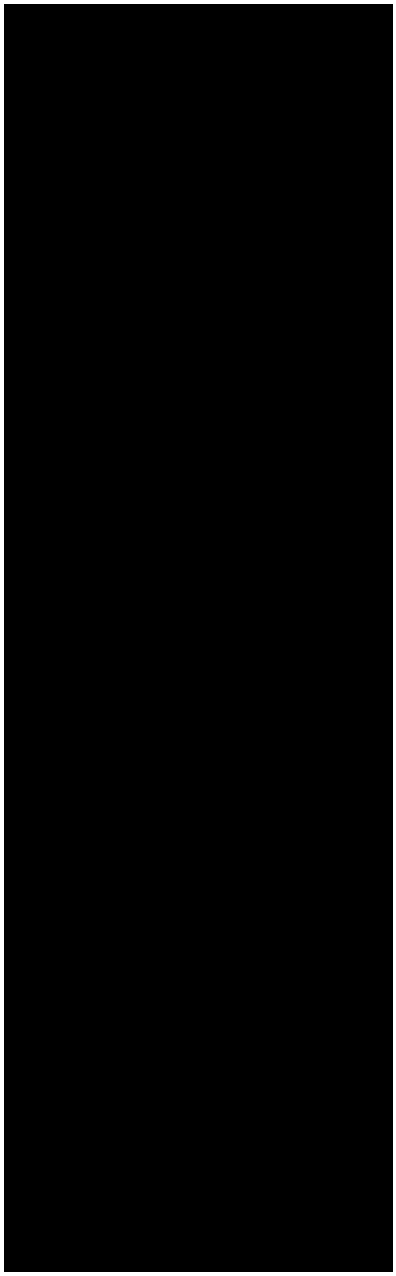
- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- A4 - AU Tax Invoice (INV)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

JACOBS INVOICES

- A4 - AU Tax Invoice (INV)	Email

SOPHIA BERLYN

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506583**	Page	: 1 of 5
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:39
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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 (09/05/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 08/05/2025, for samples 1-2. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW241_250228	0906_MW242_250228	0906_QC101_250228	----	----
				Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2506583-001	ES2506583-002	ES2506583-003	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW241_250228	0906_MW242_250228	0906_QC101_250228	----	----
				Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2506583-001	ES2506583-002	ES2506583-003	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		**0.112**	**0.012**	**0.010**	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.112**	**0.012**	**0.010**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	<0.002	<0.002	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.112**	**0.012**	**0.010**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**97.2**	**96.1**	**105**	----	----
13C8-PFOA	----	0.002	%		**91.8**	**95.5**	**94.6**	----	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506583**	Page	: 1 of 7
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.005	86.7	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.003	0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6425942) - continued									
ES2506594-005	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942) - continued									
ES2506537-002	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425942)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	125	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	94.9	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	99.0	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	108	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	105	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	98.0	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	100	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	105	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	108	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	96.2	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.5	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	90.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	98.8	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	104	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	127	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	126	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	112	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	94.3	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	121	65.0	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942) - continued								
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	93.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	110	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	94.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	77.2	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	122	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	94.0	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	79.7	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	100	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	123	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	110	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	101	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	98.6	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	98.0	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	109	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	94.7	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	106	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	105	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	107	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	107	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	101	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	85.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	99.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	114	67.0	137

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: 6425942) - continued							
ES2506554-002	Anonymous	EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	100	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	82.4	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	93.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	109	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	119	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	93.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	101	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	86.3	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	118	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	86.1	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506583**	Page	: 1 of 4
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	: [redacted]	No. of samples received	: 3
Order number	: 540003363	No. of samples analysed	: 3

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, 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-LL) 0906_MW241_250228, 0906_MW242_250228, 0906_QC101_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_MW241_250228, 0906_MW242_250228, 0906_QC101_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL) 0906_MW241_250228, 0906_MW242_250228, 0906_QC101_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_MW241_250228, 0906_MW242_250228, 0906_QC101_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL) 0906_MW241_250228, 0906_MW242_250228, 0906_QC101_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓

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-LL	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4024 2600
PO Box 2147, Dangar, NSW, 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (X pages)

LAB: ALS Environmental 277 289 Woodpark Rd, Smithfield
JACOBS PO: [redacted]
Quote #:
Email: [redacted]
Email:
Comments:

TURNAROUND: 5 – days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	[redacted]
Project Manager	
Sample Collectors	
Jacobs Reference	IS410400

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	No. OF CONTAINERS	ANALYSIS REQUIRED: LOW LEVEL PFAS Standard (Suite)	Standard PFAS (Suite)	PFAS (Reduced Suite)	Hold			
	0906_MW306_52_250228		X				X				28/02/2025		X						

Receipt Detail (Lab Use Only)	Chill Method:	Ice	Sample Temp at receipt	°C	°C	26/02/2025	Carrier Details:	Courier/Post	Client	Packaging (circle): Hard Esky / Foam Esky / Box/bag/other
Relinquished by:	Sophia Berlyn	Signature:	SGBerlyn	Date/Time	4/03/2025	Received by:				Date/Time

Fedex 6/3/25 12

Environmental Division
Sydney
Work Order Reference
ES2506586

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506586**		
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	[redacted]	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 09-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'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
- [09/05/2025] This is an updated SRN which indicates the updated sample ID as per Grant Moylan.
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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-LL PFAS - Full Suite (31 analytes) Low Level
ES2506586-001	28-Feb-2025 00:00	0906_MW306_250228	✓

Proactive Holding Time Report

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

Requested Deliverables

DANIEL COFFEY

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

DERP REPORTS

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

ELLEN MARNOCK

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

GRANT MOYLAN

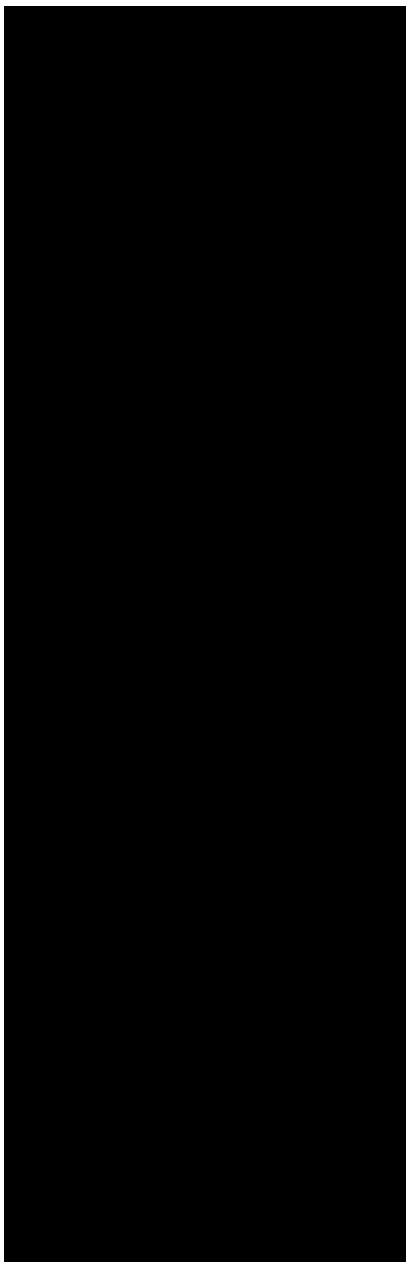
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

JACOBS INVOICES

- A4 - AU Tax Invoice (INV) Email

SOPHIA BERLYN

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506586**	Page	: 1 of 5
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	[redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:42
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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 (09/05/2025): This report has been amended as a result of a request to change sample identification number (ID) received from Grant Moylan on 08/05/2025. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW306_250228	----	----	----	----
				Sampling date / time	28-Feb-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2506586-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		**0.002**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	----	----	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		**0.011**	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		**0.005**	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		**0.012**	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	----	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW306_250228	----	----	----	----
				Sampling date / time	28-Feb-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2506586-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		**0.022**	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.052**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.002**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.052**	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**95.1**	----	----	----	----
13C8-PFOA	----	0.002	%		**95.2**	----	----	----	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506586**	Page	: 1 of 7
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.005	86.7	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.003	0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6425942) - continued									
ES2506594-005	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942) - continued									
ES2506537-002	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425942)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	125	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	94.9	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	99.0	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	108	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	105	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	98.0	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	100	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	105	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	108	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	96.2	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.5	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	90.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	98.8	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	104	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	127	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	126	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	112	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	94.3	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	121	65.0	136

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: 6425942) - continued								
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	93.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	110	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	94.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	77.2	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	122	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	94.0	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	79.7	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	100	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	123	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	110	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	101	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	98.6	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	98.0	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	109	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	94.7	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	106	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	105	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	107	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	107	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	101	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	85.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	99.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	114	67.0	137

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: 6425942) - continued							
ES2506554-002	Anonymous	EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	100	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	82.4	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	93.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	109	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	119	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	93.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	101	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	86.3	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	118	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	86.1	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506586**	Page	: 1 of 4
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 540003363	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, where applicable to the methodology, 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-LL) 0906_MW306_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_MW306_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL) 0906_MW306_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_MW306_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL) 0906_MW306_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓

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-LL	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 4924 2600
PO Box 2147, Dangar, NSW, 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (X pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield

ACCESS PO: [redacted]

QUOTE #:

TURNAROUND: 5+ days no surcharge

Project ID (Eastern)	NSW_0906_PFASOMP_25
Site ID (ES44+)	0906
Project Manager	[redacted]
Sample Collected by	
Jacobs Reference	35419100

EMAIL: [redacted]

ANALYSIS REQUIRED

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATIVE METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Suite)	Standard PFAS (Suite)	PFAS reduced (Suite)	Hold				EMAIL
1	0906_MW312_41_250226		X				X				26/02/2025		X							
2	0906_QC103_250226		X				X				26/02/2025		X							

Receipt Detail (Lab Use Only): Chill Method: Ice | Sample Temp at receipt: °C °C | 26/02/2025 | Carrier Details: Courier Post Client | Packaging (circle): Hard Esky Foam Esky Box bag other

Relinquished by: Sophia Berlyn | Signature: SGBerlyn | Date/Time: 4/03/2025 | Received by: | Date/Time

From 6/3/25

Environmental Division
Sydney
Work Order Reference
ES2506593

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506593**		
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 09-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'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
- [09/05/2025] This is an updated SRN which indicates the updated sample ID as per Grant Moylan.
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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-LL PFAS - Full Suite (31 analytes) Low Level
ES2506593-001	26-Feb-2025 00:00	0906_MW312_250226	✓
ES2506593-002	26-Feb-2025 00:00	0906_QC103_250226	✓

Proactive Holding Time Report

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

Requested Deliverables

DANIEL COFFEY

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

DERP REPORTS

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

ELLEN MARNOCK

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

GRANT MOYLAN

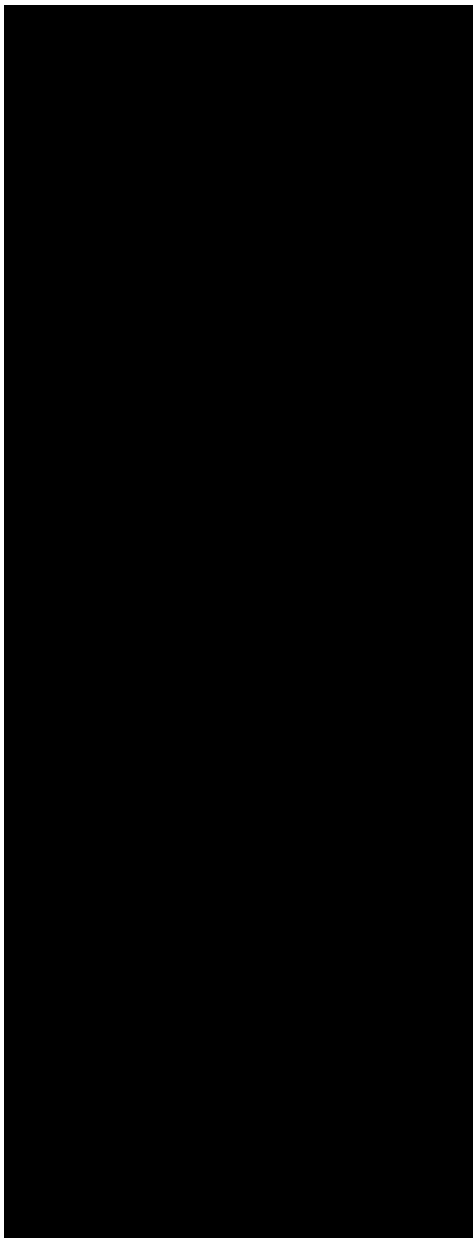
- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- A4 - AU Tax Invoice (INV)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email

JACOBS INVOICES

- A4 - AU Tax Invoice (INV)	Email

SOPHIA BERLYN

- *AU Certificate of Analysis - NATA (COA)	Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email
- Chain of Custody (CoC) (COC)	Email
- EDI Format - ESDAT (ESDAT)	Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506593**	Page	: 1 of 5
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:46
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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 (09/05/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 08/05/2025, for sample 1. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW312_250226	0906_QC103_250226	----	----	----
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2506593-001	ES2506593-002	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.005**	**0.005**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW312_250226	0906_QC103_250226	----	----	----
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2506593-001	ES2506593-002	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		**0.007**	**0.016**	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.012**	**0.021**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.005**	**0.005**	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.012**	**0.021**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**106**	**103**	----	----	----
13C8-PFOA	----	0.002	%		**96.9**	**96.0**	----	----	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506593**	Page	: 1 of 7
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.005	86.7	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.003	0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6425942) - continued									
ES2506594-005	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942) - continued									
ES2506537-002	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425942)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	125	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	94.9	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	99.0	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	108	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	105	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	98.0	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	100	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	105	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	108	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	96.2	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.5	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	90.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	98.8	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	104	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	127	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	126	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	112	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	94.3	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	121	65.0	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942) - continued								
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	93.9	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	110	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	94.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	77.2	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	122	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	94.0	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	79.7	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	100	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	123	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	110	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	101	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	98.6	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	98.0	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	109	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	94.7	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	106	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	105	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	107	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	107	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	101	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	85.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	99.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	114	67.0	137

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: 6425942) - continued							
ES2506554-002	Anonymous	EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	100	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	82.4	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	93.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	109	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	119	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	93.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	101	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	86.3	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	118	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	86.1	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506593**	Page	: 1 of 4
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	: [redacted]	No. of samples received	: 2
Order number	: 540003363	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, where applicable to the methodology, 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-LL)								
0906_MW312_250226,	0906_QC103_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X-LL)								
0906_MW312_250226,	0906_QC103_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X-LL)								
0906_MW312_250226,	0906_QC103_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X-LL)								
0906_MW312_250226,	0906_QC103_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X-LL)								
0906_MW312_250226,	0906_QC103_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓

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-LL	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Lt Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (X pages)

LAB: ALS Environmental - 277-289 Woodpark Rd, Smithfield
JACOBS PO: [redacted]
Quote #:

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

Email: [redacted]
Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	ANALYSIS REQUIRED: Combined PFAS Standard Suite	Standard PFAS (Standard) Suite	PFAS (Reduced Suite)	Hold			
1	0906_SW288_250226		X				X				26/02/2025			X					4
2	0906_SW289_250226		X				X				26/02/2025			X					
3	0906_QC102_250226		X				X				26/02/2025			X					
4	0906_SW228_250226		X				X				26/02/2025			X					
5	0906_MW244_41_250225		X				X				25/02/2025		X						
6	0906_MW245_15.5_250225		X				X				25/02/2025		X						
7	0906_QC101_250225		X				X				25/02/2025		X						
8	0906_MW247_30.9_250225		X				X				25/02/2025		X						
9	0906_MW248_16.7_250225		X				X				25/02/2025		X						
10	0906_MW250_18.9_250225		X				X				25/02/2025		X						
11	0906_SW212_250226		X				X				26/02/2025		X						
12	0906_MW240_16.25_250228										28/02/2025		X						
13	0906_MW255_46.8_250228		X				X				28/02/2025		X						
14	0906_MW256_18.5_250228		X				X				28/02/2025		X						
15	0906_MW257_14.5_250228		X				X				28/02/2025		X						

Receipt Detail (Lab Use Only): Chill Method: ICE | Sample Temp at receipt: °C °C | 26/02/2025 | Carrier Details: Courier Post Client | Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by: Sophia Berlyn | Signature: SCBerlyn | Date/Time: 4/03/2025 | Received by: | Date/Time

Tmin 6/3/25 12

Environmental Division
Sydney
Work Order Reference
ES2506594

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506594**		
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 09-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 15 / 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- [09/05/2025] This is an updated SRN which indicates the updated sample ID as per Grant Moylan.
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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 (31 analytes)	WATER - EP231X-LL PFAS - Full Suite (31 analytes) Low Level
ES2506594-001	26-Feb-2025 00:00	0906_SW288_250226	✓	
ES2506594-002	26-Feb-2025 00:00	0906_SW289_250226	✓	
ES2506594-003	26-Feb-2025 00:00	0906_QC102_250226	✓	
ES2506594-004	26-Feb-2025 00:00	0906_SW228_250226	✓	
ES2506594-005	25-Feb-2025 00:00	0906_MW244_250225		✓
ES2506594-006	25-Feb-2025 00:00	0906_MW245_250225		✓
ES2506594-007	25-Feb-2025 00:00	0906_QC101_250225		✓
ES2506594-008	25-Feb-2025 00:00	0906_MW247_250225		✓
ES2506594-009	25-Feb-2025 00:00	0906_MW248_250225		✓
ES2506594-010	25-Feb-2025 00:00	0906_MW250_250225		✓
ES2506594-011	26-Feb-2025 00:00	0906_SW212_250226		✓
ES2506594-012	28-Feb-2025 00:00	0906_MW240_250228		✓
ES2506594-013	28-Feb-2025 00:00	0906_MW255_250228		✓
ES2506594-014	28-Feb-2025 00:00	0906_MW256_250228		✓
ES2506594-015	28-Feb-2025 00:00	0906_MW257_250228		✓

Proactive Holding Time Report

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

Requested Deliverables

DANIEL COFFEY

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

ELLEN MARNOCK

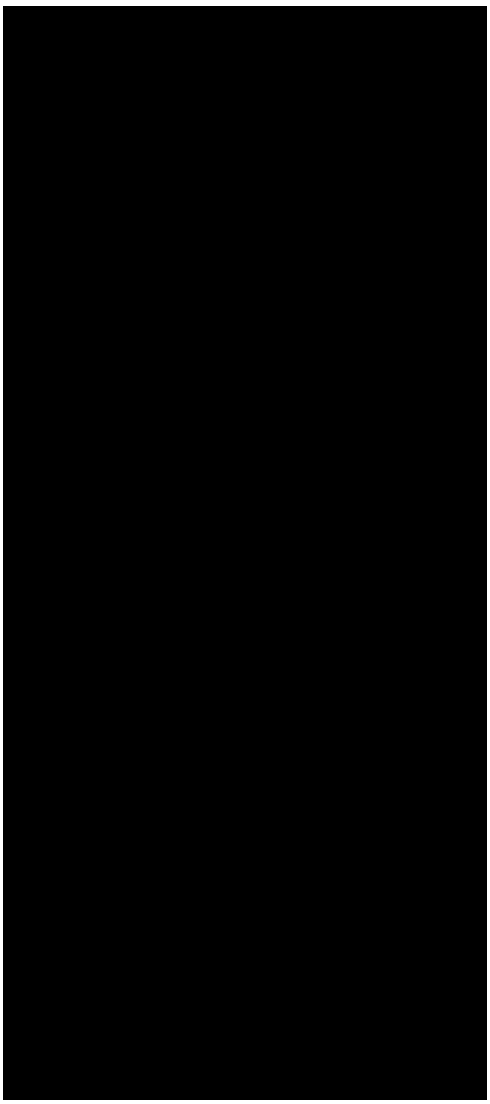
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

GRANT MOYLAN

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

SOPHIA BERLYN

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506594**	Page	: 1 of 11
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:55
Sampler	[redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
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*
Alex Rossi	Organic Chemist	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 QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- 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 (09/05/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 08/05/2025, for samples 5, 6, 8-10, 12-15. 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 or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW288_250226	0906_SW289_250226	0906_QC102_250226	0906_SW228_250226	0906_MW244_250225
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	25-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-001	ES2506594-002	ES2506594-003	ES2506594-004	ES2506594-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		----	----	----	----	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
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	0.002	µg/L		----	----	----	----	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		----	----	----	----	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		----	----	----	----	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.20**	**0.21**	<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	0.002	µg/L		----	----	----	----	**0.003**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	**0.62**	**0.67**	<0.01	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		----	----	----	----	<0.002
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		----	----	----	----	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		----	----	----	----	<0.01
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		----	----	----	----	<0.002
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.05**	**0.05**	<0.02	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW288_250226	0906_SW289_250226	0906_QC102_250226	0906_SW228_250226	0906_MW244_250225
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	25-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-001	ES2506594-002	ES2506594-003	ES2506594-004	ES2506594-005
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		----	----	----	----	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.06**	**0.06**	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		----	----	----	----	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.01**	**0.01**	<0.01	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		----	----	----	----	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		----	----	----	----	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		----	----	----	----	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		----	----	----	----	<0.005
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		----	----	----	----	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW288_250226	0906_SW289_250226	0906_QC102_250226	0906_SW228_250226	0906_MW244_250225
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	25-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-001	ES2506594-002	ES2506594-003	ES2506594-004	ES2506594-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		----	----	----	----	<0.002
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	0.005	µg/L		----	----	----	----	<0.005
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	0.005	µg/L		----	----	----	----	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		----	----	----	----	<0.005
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	0.005	µg/L		----	----	----	----	<0.005
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	0.002	µg/L		----	----	----	----	<0.002
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	0.002	µg/L		----	----	----	----	<0.002
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	0.005	µg/L		----	----	----	----	<0.005

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW288_250226	0906_SW289_250226	0906_QC102_250226	0906_SW228_250226	0906_MW244_250225
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	25-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-001	ES2506594-002	ES2506594-003	ES2506594-004	ES2506594-005
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		----	----	----	----	<0.005
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	0.005	µg/L		----	----	----	----	<0.005
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	0.005	µg/L		----	----	----	----	<0.005
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	----	0.002	µg/L		----	----	----	----	**0.003**
Sum of PFAS	----	0.01	µg/L		**0.02**	**0.94**	**1.00**	<0.01	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		----	----	----	----	**0.003**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.02**	**0.82**	**0.88**	<0.01	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		----	----	----	----	**0.003**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.02**	**0.94**	**1.00**	<0.01	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		----	----	----	----	**107**
13C4-PFOS	----	0.02	%		**96.0**	**96.9**	**103**	**101**	----
13C8-PFOA	----	0.002	%		----	----	----	----	**101**
13C8-PFOA	----	0.02	%		**104**	**99.3**	**101**	**94.8**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW245_250225	0906_QC101_250225	0906_MW247_250225	0906_MW248_250225	0906_MW250_250225
				Sampling date / time	25-Feb-2025 00:00	25-Feb-2025 00:00	25-Feb-2025 00:00	25-Feb-2025 00:00	25-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-006	ES2506594-007	ES2506594-008	ES2506594-009	ES2506594-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		**0.003**	**0.004**	<0.002	**0.018**	**0.005**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	<0.002	**0.016**	**0.003**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		**0.006**	**0.004**	<0.002	**0.140**	**0.030**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	<0.002	**0.007**	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	<0.002	**0.173**	**0.010**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	<0.01	**0.03**	**0.02**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	<0.002	**0.071**	**0.058**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	<0.002	**0.073**	**0.040**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	<0.002	**0.034**	**0.012**
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	<0.002	**0.020**	**0.006**
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	**0.033**	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW245_250225	0906_QC101_250225	0906_MW247_250225	0906_MW248_250225	0906_MW250_250225
				Sampling date / time	25-Feb-2025 00:00	25-Feb-2025 00:00	25-Feb-2025 00:00	25-Feb-2025 00:00	25-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-006	ES2506594-007	ES2506594-008	ES2506594-009	ES2506594-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		**0.009**	**0.008**	<0.002	**0.615**	**0.184**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		**0.006**	**0.004**	<0.002	**0.313**	**0.040**
Sum of PFAS (WA DER List)	----	0.002	µg/L		**0.009**	**0.008**	<0.002	**0.559**	**0.181**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**100**	**104**	**101**	**100**	**107**
13C8-PFOA	----	0.002	%		**99.2**	**100**	**96.3**	**93.7**	**99.0**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW212_250226	0906_MW240_250228	0906_MW255_250228	0906_MW256_250228	0906_MW257_250228
				Sampling date / time	26-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-011	ES2506594-012	ES2506594-013	ES2506594-014	ES2506594-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	**0.015**	**0.006**	**0.020**	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	**0.015**	**0.006**	**0.020**	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	**0.116**	**0.043**	**0.114**	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	**0.004**	<0.002	**0.005**	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	**0.005**	**0.019**	**0.017**	<0.002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	**0.010**	**0.006**	**0.008**	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	**0.028**	**0.015**	**0.034**	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	**0.004**	<0.002	**0.003**	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	**0.005**	<0.002	**0.004**	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW212_250226	0906_MW240_250228	0906_MW255_250228	0906_MW256_250228	0906_MW257_250228
				Sampling date / time	26-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506594-011	ES2506594-012	ES2506594-013	ES2506594-014	ES2506594-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	<0.005	**0.006**	<0.005	<0.005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	**0.202**	**0.101**	**0.225**	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	**0.121**	**0.062**	**0.131**	<0.002
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	**0.183**	**0.095**	**0.200**	<0.002
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**100**	**96.4**	**99.5**	**96.0**	**103**
13C8-PFOA	----	0.002	%		**93.2**	**99.8**	**99.2**	**94.5**	**92.3**

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506594**	Page	: 1 of 13
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
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 Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	Sydney Organics, Smithfield, NSW

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: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.005	86.7	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	0906_MW244_250225	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.003	0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6425942) - continued									
ES2506594-005	0906_MW244_250225	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 6427548)									
ES2506594-012	0906_MW240_250228	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	0.015	0.014	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	0.015	0.015	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	0.116	0.112	3.3	0% - 20%
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.005	0.005	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	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: 6425942) - continued									
ES2506537-002	Anonymous	EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506594-005	0906_MW244_250225	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6427548)									
ES2506594-012	0906_MW240_250228	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	0.010	0.010	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	0.028	0.028	0.0	0% - 50%
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	0.005	0.006	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	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: 6427548) - continued									
ES2506606-006	Anonymous	EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	0906_MW244_250225	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6427548)									
ES2506594-012	0906_MW240_250228	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6427548) - continued									
ES2506594-012	0906_MW240_250228	EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6425942)									
ES2506537-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506594-005	0906_MW244_250225	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6427548)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6427548) - continued									
ES2506594-012	0906_MW240_250228	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425936)								
EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L	<0.02	0.25 µg/L	86.7	70.0	130
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	79.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	92.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	91.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	90.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	95.3	65.0	140
EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L	<0.02	0.25 µg/L	84.6	70.0	130
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	81.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	125	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	94.9	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	99.0	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	123	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	108	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	99.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6427548)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	92.3	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	78.4	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	91.2	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	80.8	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	93.3	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	88.4	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	83.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425936)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	85.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	88.0	71.0	133

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: 6425936) - continued								
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	87.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	86.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132
EP231X: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L	<0.05	0.25 µg/L	88.9	62.9	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	105	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	97.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	104	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	98.0	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	100	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	105	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	108	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	96.2	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.5	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	90.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	98.8	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	104	65.6	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	90.6	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	96.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	86.8	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	92.9	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	91.6	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	88.5	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	92.5	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	97.9	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.3	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	82.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	97.7	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425936)								

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: 6425936) - continued								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	90.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	87.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	87.8	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.4	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	83.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	127	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	126	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	112	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	94.3	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	115	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	121	65.0	136
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	93.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	92.0	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	108	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	93.1	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	93.6	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	96.9	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	101	65.0	136
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	96.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425936)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425936) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	80.1	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	92.5	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	95.5	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	82.1	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	110	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	94.0	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	90.3	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	77.2	75.2	137
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6427548)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	85.0	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	116	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	103	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	78.9	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	122	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	94.0	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	79.7	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	100	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	123	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	110	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	101	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	97.5	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	84.3	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	90.3	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	84.6	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	104	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	85.6	65.0	140

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: 6427548) - continued							
ES2506606-001	Anonymous	EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	89.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	98.6	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	98.0	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	109	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	94.7	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	106	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	105	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	107	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	107	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	101	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	85.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	99.6	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	102	65.6	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	91.4	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	100	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	95.8	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	90.2	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	96.8	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	91.2	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	93.9	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	99.7	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	106	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	86.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	97.7	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	95.6	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	114	67.0	137
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	100	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	82.4	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	93.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	109	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	119	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: 6425942) - continued							
ES2506554-002	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	93.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	97.2	67.0	137
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	107	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	99.6	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	95.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	103	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	96.8	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	90.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425942)							
ES2506554-002	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	101	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	86.3	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	118	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	86.1	75.2	137
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	104	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	131	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	106	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	81.7	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506594**	Page	: 1 of 5
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	: [redacted]	No. of samples received	: 15
Order number	: 540003363	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.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

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

Method / *Container* / Client Sample ID(s)		*Sample Date*	*Extraction / Preparation*			*Analysis*		
			Date extracted	Due for extraction	Evaluation	*Date analysed*	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X-LL)								
0906_MW244_250225,	0906_MW245_250225,	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
0906_QC101_250225,	0906_MW247_250225,							
0906_MW248_250225,	0906_MW250_250225							
HDPE (no PTFE) (EP231X-LL)								
0906_SW288_250226,	0906_SW289_250226,	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
0906_QC102_250226,	0906_SW228_250226,							
0906_SW212_250226								
HDPE (no PTFE) (EP231X-LL)								
0906_MW240_250228,	0906_MW255_250228,	**28-Feb-2025**	**10-Mar-2025**	27-Aug-2025	✓	**12-Mar-2025**	27-Aug-2025	✓
0906_MW256_250228,	0906_MW257_250228							
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X-LL)								
0906_MW244_250225,	0906_MW245_250225,	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
0906_QC101_250225,	0906_MW247_250225,							
0906_MW248_250225,	0906_MW250_250225							
HDPE (no PTFE) (EP231X-LL)								
0906_SW288_250226,	0906_SW289_250226,	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
0906_QC102_250226,	0906_SW228_250226,							
0906_SW212_250226								
HDPE (no PTFE) (EP231X-LL)								
0906_MW240_250228,	0906_MW255_250228,	**28-Feb-2025**	**10-Mar-2025**	27-Aug-2025	✓	**12-Mar-2025**	27-Aug-2025	✓
0906_MW256_250228,	0906_MW257_250228							

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-LL) 0906_MW244_250225, 0906_MW245_250225, 0906_QC101_250225, 0906_MW247_250225, 0906_MW248_250225, 0906_MW250_250225	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW288_250226, 0906_SW289_250226, 0906_QC102_250226, 0906_SW228_250226, 0906_SW212_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW240_250228, 0906_MW255_250228, 0906_MW256_250228, 0906_MW257_250228	**28-Feb-2025**	**10-Mar-2025**	27-Aug-2025	✓	**12-Mar-2025**	27-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL) 0906_MW244_250225, 0906_MW245_250225, 0906_QC101_250225, 0906_MW247_250225, 0906_MW248_250225, 0906_MW250_250225	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW288_250226, 0906_SW289_250226, 0906_QC102_250226, 0906_SW228_250226, 0906_SW212_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW240_250228, 0906_MW255_250228, 0906_MW256_250228, 0906_MW257_250228	**28-Feb-2025**	**10-Mar-2025**	27-Aug-2025	✓	**12-Mar-2025**	27-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL) 0906_MW244_250225, 0906_MW245_250225, 0906_QC101_250225, 0906_MW247_250225, 0906_MW248_250225, 0906_MW250_250225	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW288_250226, 0906_SW289_250226, 0906_QC102_250226, 0906_SW228_250226, 0906_SW212_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW240_250228, 0906_MW255_250228, 0906_MW256_250228, 0906_MW257_250228	**28-Feb-2025**	**10-Mar-2025**	27-Aug-2025	✓	**12-Mar-2025**	27-Aug-2025	✓

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-LL	4	32	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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-LL	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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-LL	2	32	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: +61 2 9928 2500
PO Box 2147, Dangar, NSW, 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (X pages)

LAB: ALS Environmental 277-289 Woodpark Rd Smithfield

[redacted]

TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collector	
Jacobs Reference	[redacted]

ANALYSIS REQUIRED

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	FUME	SAMPLE DATE	No. OF CONTAINERS	Combined PFAS (Lombard Suite)	Standard PFAS (Lombard Suite)	PFAS (Reduced Suite)	Hold			
	0906_MW204_15.6_250226		X				X				26-02-2025		X						

Receipt Detail (Lab Use Only): Chill Method: Ice | Sample Temp at receipt: °C °C | 26-02-2025 | Carrier Details: Courier Post Client | Packaging (circle): Hard Esky Foam Esky Box bag other

Relinquished by:	Sophia Berryn	Signature:	SCBerryn	Date/Time	4-03-2025
Received by:		Date/Time			

From 6/3/25

Environmental Division
Sydney
Work Order Reference
ES2506603

Telephone : +61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506603**		
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	[redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	[redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 05-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'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
- [05/05/2025] This is an updated SRN which indicates the corrected ID as per Grant Moylan.
- **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.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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-LL PFAS - Full Suite (31 analytes) Low Level
ES2506603-001	26-Feb-2025 00:00	0906_MW204_250226	✓

Proactive Holding Time Report

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

Requested Deliverables

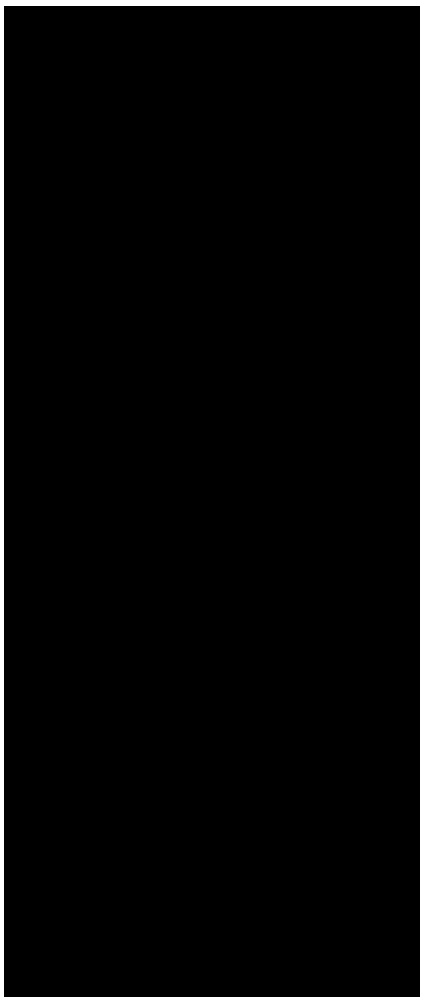
DERP REPORTS
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

ELLEN MARNOCK
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

GRANT MOYLAN
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

JACOBS INVOICES
- A4 - AU Tax Invoice (INV) Email

SOPHIA BERLYN
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506603**	Page	: 1 of 5
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Contact	: [redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 05-May-2025 12:22
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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 (05/05/2025): This report has been amended as a result of a request to change sample identification number (IDs) received from Grant Moylan on 05/05/2025, for sample 1. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW204_250226	----	----	----	----
				Sampling date / time	26-Feb-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2506603-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	----	----	----	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	----	----	----	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW204_250226	----	----	----	----
				Sampling date / time	26-Feb-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2506603-001	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L		<0.005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L		<0.005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L		<0.005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.002	µg/L		<0.002	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	----	----	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**99.0**	----	----	----	----
13C8-PFOA	----	0.002	%		**91.4**	----	----	----	----

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506603**	Page	: 1 of 7
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	[redacted]	Contact	[redacted]
Address	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 05-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	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: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	0.015	0.014	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	0.015	0.015	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	0.116	0.112	3.3	0% - 20%
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.005	0.005	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6427548) - continued									
ES2506606-006	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	0.010	0.010	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	0.028	0.028	0.0	0% - 50%
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	0.005	0.006	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6427548) - continued									
ES2506594-012	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506606-006	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6427548)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	92.3	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	78.4	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	91.2	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	80.8	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	93.3	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	88.4	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	83.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548)								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	90.6	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	96.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	86.8	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	92.9	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	91.6	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	88.5	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	92.5	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	97.9	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.3	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	82.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	97.7	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	92.0	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	108	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	93.1	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	93.6	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	96.9	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	101	65.0	136

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548) - continued								
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	96.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6427548)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	85.0	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	116	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	103	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	78.9	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	97.5	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	84.3	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	90.3	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	84.6	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	104	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	85.6	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	89.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	91.4	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	100	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	95.8	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	90.2	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	96.8	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	91.2	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	93.9	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	99.7	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	106	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	86.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	97.7	71.0	132
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	95.6	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	97.2	67.0	137

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: 6427548) - continued							
ES2506606-001	Anonymous	EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	107	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	99.6	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	95.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	103	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	96.8	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	90.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6427548)							
ES2506606-001	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	104	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	131	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	106	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	81.7	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506603**	Page	: 1 of 4
Amendment	: **1**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 05-May-2025
Sampler	: [redacted]	No. of samples received	: 1
Order number	: 540003363	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, where applicable to the methodology, 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-LL)							
0906_MW204_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X-LL)							
0906_MW204_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL)							
0906_MW204_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X-LL)							
0906_MW204_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL)							
0906_MW204_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓

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-LL	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	13	**7.69**	**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-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs Jacobs Group (Australia) Pty Ltd Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2310 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 2 (2 pages)

TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	154119100

LAB: ALS Environmental - 277 289 Woodpark Rd, Smithfield N
JACOBS Po [redacted]
Quote #:
Email
Email
Telephone : + 61-2-8784 8555

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				
1	0906_MW259_S1_250225		X				X				25/02/2025		X							
2	0906_QC301_250225		X				X				25/02/2025				X					
3	0906_QC301_250226		X				X				26/02/2025				X					
4	0906_MW251_18.1_250227		X				X				27/02/2025		X							
5	0906_MW252_47.5_250227		X				X				27/02/2025		X							
6	0906_MW304_44_250227		X				X				27/02/2025		X							
7	0906_QC101_250227		X				X				27/02/2025		X							
8	0906_QC301_250227		X				X				27/02/2025				X					
9	0906_SW104_250227		X				X				27/02/2025			X						
10	0906_MW206_250227		X				X				27/02/2025		X							
11	0906_QC301_250228		X				X				28/02/2025				X					
12	0906_QC501_250228		X				X				28/02/2025				X					
13	0906_SW310_250228		X				X				28/02/2025			X						
14	0906_SW218_250227		X				X				27/02/2025			X						
15	0906_SW201_250227		X				X				27/02/2025		X							
16	0906_SW294_250227		X				X				27/02/2025			X						
17	0906_SW236_250226		X				X				26/02/2025			X						

Receipt Detail (Lab Use ONLY): Chill Method: Ice | Sample Temp at receipt °C °C | 26/02/2025 | Carrier Details: Courier Post / Client | Packaging (circle): Hard Esky, Foam Esky, Box/bag/other

Relinquished by:	Sophia Berlyn	Signature:	SGBerlyn	Date/Time	4/03/2025	Received by:		Date/Time	

Fmo 6/3/25 12p

Environmental Division
Sydney
Work Order Reference
ES2506606

Subcon (Forward Lab) Split WO Eurofins
Lab / Analysis:
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No: ES2506606
Attached By PO / Internal Sheet:

Jacobs

Jacobs Group (Australia) Pty Ltd Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2309 ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 2 of 2 (2 pages)

LAB: ALS Environmental 277 289 Woodpark Rd Smithfield N
JACOBS PO: [redacted]
Quote #:
TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	[redacted]
Project Manager	
Sample Collectors	
Jacobs Reference	15419100

ANALYSIS REQUIRED

Email: [redacted]
Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				
18	0906_SW240_250226		X				X				26/02/2025			X						
19	0906_SW286_250226		X				X				26/02/2025		X							
20	0906_QC101_250226		X				X				26/02/2025			X						

Receipt Detail (Lab Use ONLY)	Chill Method:	Ice	Sample Temp at receipt	°C	°C	26/02/2025	Carrier Details:	Courier/Post	Client	Packaging (circle):	Hard Esky Foam Esky Box/bag/other
Relinquished by:	Sophia Borlyn	Signature:	SCBorlyn	Date/Time	4/03/2025	Received by:				Date/Time	

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2

Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins
JACOBS PO#: [redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	

Email: [redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Extended Suite)	Hold			
	0906_QC201_250226		x				x				26/02/2025			X					
	0906_QC201_250227		x				x				27/02/2025		X						

Receipt Detail (Lab Use ONLY)	Chill Method: e / Ice bricks / not	Sample Temp at receipt °C °C °C	Carrier Details : Courier/Post . Client	Packaging (circle): Hard Esky Foam Esky Box/bag/other
Relinquished by: Sophia Berlyn	Signature: SGBerlyn	Date/Time 4/03/2025	Received by:	Date/Time

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2

Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins
JACOBS PO#: [redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250228		x				x				28/02/2025		X							

Receipt Detail (Lab Use ONLY)

Chill Method: e / Ice bricks / no

Sample Temp at receipt: °C °C °C

Carrier Details: Courier/Post . Client

Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Sophia Berlyn	Signature:	SOBerlyn	Date/Time	4/03/2025
Received by:		Date/Time			

Jacobs

Jacobs Group (Australia) Pty [redacted] Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2[redacted] ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: [redacted]
JACOBS P[redacted]
Quote #

TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW 0906 PFASOMP 25
Site ID (ESdat)	[redacted]
Project Manager	
Sample Collectors	
Jacobs Reference	

Email: [redacted]

Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250225		x				x				25/02/2025		X							
	0906_QC202_250226		x				x				26/02/2025			X						

Receipt Detail (Lab Use ONLY)	Chill Method: e / ice bricks / nor	Sample Temp at receipt °C	°C	°C	Carrier Details : Courier/Post , Client	Packaging (circle): Hard Esky Foam Esky Box/bag/other
Relinquished by:	Sophia Berlyn	Signature:	SCBerlyn	Date/Time 4/03/2025	Received by:	Date/Time

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2

Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB:
JACOBS PO#:
Quote #

TURNAROUND: 5 + days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC203_250226		x				x				26/02/2025		X							

Receipt Detail (Lab Use ONLY)	Chill Method: e / Ice bricks / no	Sample Temp at receipt °C °C °C	Carrier Details : Courier/Post , Client	Packaging (circle):	Hard Esky Foam Esky Box/bag/other
Relinquished by: Sophia Berlyn	Signature: SOBerlyn	Date/Time 4/03/2025	Received by:	Date/Time	

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2506606**		
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	[redacted]	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
	Dangar 2309		
E-mail	[redacted]	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9928 2272	Facsimile	: +61-2-8784 8500
Project	: NSW_0906_PFASOMP_25	Page	: 1 of 3
Order number	: 540003363	Quote number	: EM2023SINKNI0019 (JACOBS MSA)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 0906		
Sampler	: [redacted]		

Dates

Date Samples Received	: 06-Mar-2025 12:00	Issue Date	: 09-May-2025
Client Requested Due Date	: 13-Mar-2025	Scheduled Reporting Date	: **13-Mar-2025**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 10.8'C, 12.3'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 20 / 20

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
- [21/03/2025] This is an updated SRN which indicates the updated sample IDs for sample 1 and 10.
- [09/05/2025] This is an updated SRN which indicates the updated sample ID as per Grant Moylan.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample #1 '0906_MW259_51_250225' received labelled as '0906_MW249_51_250225' on bottles.**
- **Samples '0906_QC201_250226', '0906_QC201_250227', '0906_QC201_250228', '0906_QC201_250225', '0906_QC202_250226' and '0906_QC203_250226' forwarded to Eurofins.**
- **Sample #10 '0906_MW206_250227' received labelled as '0906_SW206_250227' on bottles.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.
- 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 - EP231 PFAS - Short Suite (12 analytes)	WATER - EP231X PFAS - Full Suite (31 analytes)	WATER - EP231X-LL PFAS - Full Suite (31 analytes) Low Level
ES2506606-001	25-Feb-2025 00:00	0906_MW249_250225			✓
ES2506606-002	25-Feb-2025 00:00	0906_QC301_250225	✓		
ES2506606-003	26-Feb-2025 00:00	0906_QC301_250226	✓		
ES2506606-004	27-Feb-2025 00:00	0906_MW251_250227			✓
ES2506606-005	27-Feb-2025 00:00	0906_MW252_250227			✓
ES2506606-006	27-Feb-2025 00:00	0906_MW304_250227			✓
ES2506606-007	27-Feb-2025 00:00	0906_QC101_250227			✓
ES2506606-008	27-Feb-2025 00:00	0906_QC301_250227	✓		
ES2506606-009	27-Feb-2025 00:00	0906_SW104_250227		✓	
ES2506606-010	27-Feb-2025 00:00	0906_SW206_250227			✓
ES2506606-011	28-Feb-2025 00:00	0906_QC301_250228	✓		
ES2506606-012	28-Feb-2025 00:00	0906_QC501_250228	✓		
ES2506606-013	28-Feb-2025 00:00	0906_SW310_250228		✓	
ES2506606-014	27-Feb-2025 00:00	0906_SW218_250227		✓	
ES2506606-015	27-Feb-2025 00:00	0906_SW261_250227			✓
ES2506606-016	27-Feb-2025 00:00	0906_SW294_250227		✓	
ES2506606-017	26-Feb-2025 00:00	0906_SW236_250226		✓	
ES2506606-018	26-Feb-2025 00:00	0906_SW240_250226		✓	
ES2506606-019	26-Feb-2025 00:00	0906_SW286_250226			✓
ES2506606-020	26-Feb-2025 00:00	0906_QC101_250226		✓	

Proactive Holding Time Report

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

Requested Deliverables

DANIEL COFFEY

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

DERP REPORTS

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

ELLEN MARNOCK

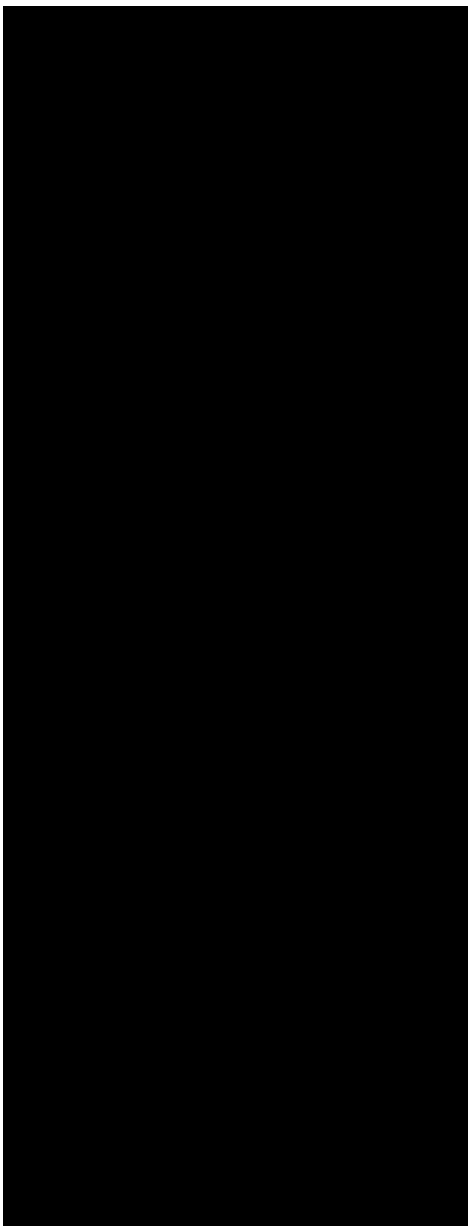
- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

GRANT MOYLAN

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- A4 - AU Tax Invoice (INV) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email

SOPHIA BERLYN

- *AU Certificate of Analysis - NATA (COA) Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email
- Chain of Custody (CoC) (COC) Email
- EDI Format - ESDAT (ESDAT) Email



CERTIFICATE OF ANALYSIS

Work Order	: **ES2506606**	Page	: 1 of 18
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]		
[redacted]dress	: PO Box 2147 Dangar 2309	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025 12:00
Order number	: 540003363	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 13:59
Sampler	[redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 20		
No. of samples analysed	: 20		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20mL or 125mL bottles have been tested in accordance with the QSM5.4 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X - 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 (21/03/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 20-21/3/2025, for samples 1 and 10. All analysis results are as per the previous report.
- Amendment (09/05/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Grant Moylan on 08/05/2025, for samples 1, and 4-6. 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 or as per tables in USEPA 1633 where listed. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS and also conform to QSM 5.4 (US DoD) requirements.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW249_250225	0906_QC301_250225	0906_QC301_250226	0906_MW251_250227	0906_MW252_250227
				Sampling date / time	25-Feb-2025 00:00	25-Feb-2025 00:00	26-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-001	ES2506606-002	ES2506606-003	ES2506606-004	ES2506606-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		----	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		----	<0.01	<0.01	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		----	<0.01	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	----	----	<0.01	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	----	----	<0.01	<0.01
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		----	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		----	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		----	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		----	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		----	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	----	----	<0.002	<0.002

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW249_250225	0906_QC301_250225	0906_QC301_250226	0906_MW251_250227	0906_MW252_250227
				Sampling date / time	25-Feb-2025 00:00	25-Feb-2025 00:00	26-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-001	ES2506606-002	ES2506606-003	ES2506606-004	ES2506606-005
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	----	----	<0.005	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	----	----	<0.005	<0.005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	----	----	<0.002	<0.002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	----	----	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	----	----	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	----	----	<0.005	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	----	----	<0.005	<0.005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	----	----	<0.002	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	----	----	<0.002	<0.002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L		<0.005	----	----	<0.005	<0.005
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	0.005	µg/L		<0.005	----	----	<0.005	**0.006**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW249_250225	0906_QC301_250225	0906_QC301_250226	0906_MW251_250227	0906_MW252_250227
				Sampling date / time	25-Feb-2025 00:00	25-Feb-2025 00:00	26-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-001	ES2506606-002	ES2506606-003	ES2506606-004	ES2506606-005
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		<0.005	----	----	<0.005	<0.005
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	0.005	µg/L		<0.005	----	----	<0.005	<0.005
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	----	0.002	µg/L		<0.002	----	----	<0.002	**0.006**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	----	----	<0.002	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		----	<0.01	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	----	----	<0.002	**0.006**
Sum of PFAS (WA DER List)	----	0.01	µg/L		----	<0.01	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**92.1**	----	----	**97.4**	**95.3**
13C4-PFOS	----	0.02	%		----	**114**	**96.9**	----	----
13C8-PFOA	----	0.002	%		**94.4**	----	----	**95.9**	**93.5**
13C8-PFOA	----	0.02	%		----	**107**	**98.3**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW304_250227	0906_QC101_250227	0906_QC301_250227	0906_SW104_250227	0906_SW206_250227
				Sampling date / time	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-006	ES2506606-007	ES2506606-008	ES2506606-009	ES2506606-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		<0.002	<0.002	----	----	**0.010**
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		----	----	----	<0.02	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		----	----	<0.02	**0.05**	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L		<0.002	<0.002	----	----	**0.009**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		<0.002	<0.002	----	----	**0.095**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		----	----	----	**0.05**	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		<0.002	<0.002	----	----	**0.005**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		----	----	<0.01	**0.61**	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		----	----	----	**0.02**	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	**0.125**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		----	----	<0.01	**0.55**	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		----	----	----	<0.02	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		----	----	----	<0.02	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		<0.01	<0.01	----	----	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		<0.01	<0.01	----	----	<0.01
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		----	----	<0.1	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		----	----	<0.02	<0.02	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW304_250227	0906_QC101_250227	0906_QC301_250227	0906_SW104_250227	0906_SW206_250227
				Sampling date / time	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-006	ES2506606-007	ES2506606-008	ES2506606-009	ES2506606-010
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		<0.002	<0.002	----	----	**0.013**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		----	----	<0.02	**0.09**	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		<0.002	<0.002	----	----	**0.003**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		----	----	<0.01	**0.02**	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		----	----	----	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		----	----	----	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		----	----	----	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		----	----	----	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		----	----	----	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		<0.005	<0.005	----	----	<0.005
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		----	----	----	<0.05	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		<0.005	<0.005	----	----	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L		----	----	----	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW304_250227	0906_QC101_250227	0906_QC301_250227	0906_SW104_250227	0906_SW206_250227
				Sampling date / time	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-006	ES2506606-007	ES2506606-008	ES2506606-009	ES2506606-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		<0.002	<0.002	----	----	<0.002
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		----	----	----	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		<0.005	<0.005	----	----	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		----	----	----	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		<0.005	<0.005	----	----	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		----	----	----	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		<0.005	<0.005	----	----	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		----	----	----	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		<0.005	<0.005	----	----	<0.005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		----	----	----	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L		<0.002	<0.002	----	----	<0.002
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		----	----	----	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L		<0.002	<0.002	----	----	<0.002
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	0.005	µg/L		<0.005	<0.005	----	----	<0.005

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_MW304_250227	0906_QC101_250227	0906_QC301_250227	0906_SW104_250227	0906_SW206_250227
				Sampling date / time	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-006	ES2506606-007	ES2506606-008	ES2506606-009	ES2506606-010
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		<0.005	<0.005	----	----	<0.005
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	0.005	µg/L		<0.005	<0.005	----	----	<0.005
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	0.005	µg/L		<0.005	<0.005	----	----	<0.005
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	----	0.002	µg/L		<0.002	<0.002	----	----	**0.260**
Sum of PFAS	----	0.01	µg/L		----	----	----	**1.39**	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		<0.002	<0.002	----	----	**0.220**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		----	----	<0.01	**1.16**	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		<0.002	<0.002	----	----	**0.246**
Sum of PFAS (WA DER List)	----	0.01	µg/L		----	----	<0.01	**1.32**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		**94.5**	**91.6**	----	----	**94.1**
13C4-PFOS	----	0.02	%		----	----	**102**	**101**	----
13C8-PFOA	----	0.002	%		**96.0**	**97.2**	----	----	**95.7**
13C8-PFOA	----	0.02	%		----	----	**100**	**102**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250228	0906_QC501_250228	0906_SW310_250228	0906_SW218_250227	0906_SW261_250227
				Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-011	ES2506606-012	ES2506606-013	ES2506606-014	ES2506606-015
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		----	----	----	----	<0.002
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		----	----	<0.02	<0.02	----
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	0.002	µg/L		----	----	----	----	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		----	----	----	----	<0.002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		----	----	----	----	<0.002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.09**	<0.01	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.40**	<0.01	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L		----	----	----	----	<0.002
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		----	----	----	----	<0.01
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		----	----	----	----	<0.01
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		----	----	----	----	<0.002
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250228	0906_QC501_250228	0906_SW310_250228	0906_SW218_250227	0906_SW261_250227
				Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-011	ES2506606-012	ES2506606-013	ES2506606-014	ES2506606-015
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		----	----	----	----	<0.002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		----	----	----	----	<0.002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		----	----	----	----	<0.002
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		----	----	----	----	<0.002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		----	----	----	----	<0.002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		----	----	----	----	<0.002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		----	----	<0.02	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		----	----	----	----	<0.005
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		----	----	<0.05	<0.05	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		----	----	----	----	<0.005
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L		----	----	<0.05	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250228	0906_QC501_250228	0906_SW310_250228	0906_SW218_250227	0906_SW261_250227
				Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-011	ES2506606-012	ES2506606-013	ES2506606-014	ES2506606-015
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		----	----	----	----	<0.002
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		----	----	<0.02	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L		----	----	----	----	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		----	----	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L		----	----	----	----	<0.005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		----	----	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		----	----	----	----	<0.005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		----	----	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L		----	----	----	----	<0.005
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	0.002	µg/L		----	----	----	----	<0.002
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	0.002	µg/L		----	----	----	----	<0.002
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	0.005	µg/L		----	----	----	----	<0.005

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_QC301_250228	0906_QC501_250228	0906_SW310_250228	0906_SW218_250227	0906_SW261_250227
				Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-011	ES2506606-012	ES2506606-013	ES2506606-014	ES2506606-015
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		----	----	----	----	<0.005
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	0.005	µg/L		----	----	----	----	<0.005
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	0.005	µg/L		----	----	----	----	<0.005
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	----	0.002	µg/L		----	----	----	----	<0.002
Sum of PFAS	----	0.01	µg/L		----	----	**0.49**	<0.01	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.002	µg/L		----	----	----	----	<0.002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.49**	<0.01	----
Sum of PFAS (WA DER List)	----	0.002	µg/L		----	----	----	----	<0.002
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.49**	<0.01	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		----	----	----	----	**96.1**
13C4-PFOS	----	0.02	%		**102**	**101**	**99.4**	**97.7**	----
13C8-PFOA	----	0.002	%		----	----	----	----	**95.6**
13C8-PFOA	----	0.02	%		**103**	**104**	**101**	**101**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW294_250227	0906_SW236_250226	0906_SW240_250226	0906_SW286_250226	0906_QC101_250226
				Sampling date / time	27-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-016	ES2506606-017	ES2506606-018	ES2506606-019	ES2506606-020
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L		----	----	----	<0.002	----
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
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	0.002	µg/L		----	----	----	<0.002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L		----	----	----	<0.002	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L		----	----	----	<0.002	----
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	0.002	µg/L		----	----	----	<0.002	----
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	0.002	µg/L		----	----	----	<0.002	----
Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L		----	----	----	<0.01	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L		----	----	----	<0.01	----
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L		----	----	----	<0.002	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW294_250227	0906_SW236_250226	0906_SW240_250226	0906_SW286_250226	0906_QC101_250226
				Sampling date / time	27-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-016	ES2506606-017	ES2506606-018	ES2506606-019	ES2506606-020
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L		----	----	----	<0.002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L		----	----	----	<0.002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L		----	----	----	<0.002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L		----	----	----	<0.002	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L		----	----	----	<0.002	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L		----	----	----	<0.002	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L		----	----	----	<0.002	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L		----	----	----	<0.002	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L		----	----	----	<0.005	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	<0.05
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L		----	----	----	<0.005	----
Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L		<0.05	<0.05	<0.05	----	<0.05
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW294_250227	0906_SW236_250226	0906_SW240_250226	0906_SW286_250226	0906_QC101_250226
				Sampling date / time	27-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-016	ES2506606-017	ES2506606-018	ES2506606-019	ES2506606-020
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L		----	----	----	<0.002	----
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	0.005	µg/L		----	----	----	<0.005	----
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	0.005	µg/L		----	----	----	<0.005	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L		----	----	----	<0.005	----
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	0.005	µg/L		----	----	----	<0.005	----
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	0.002	µg/L		----	----	----	<0.002	----
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	0.002	µg/L		----	----	----	<0.002	----
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	0.005	µg/L		----	----	----	<0.005	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0906_SW294_250227	0906_SW236_250226	0906_SW240_250226	0906_SW286_250226	0906_QC101_250226
				Sampling date / time	27-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00	26-Feb-2025 00:00
Compound	CAS Number	LOR	Unit		ES2506606-016	ES2506606-017	ES2506606-018	ES2506606-019	ES2506606-020
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
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	0.005	µg/L		----	----	----	<0.005	----
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	0.005	µg/L		----	----	----	<0.005	----
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	0.005	µg/L		----	----	----	<0.005	----
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	----	0.002	µg/L		----	----	----	<0.002	----
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	0.002	µg/L		----	----	----	<0.002	----
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)	----	0.002	µg/L		----	----	----	<0.002	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	----	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.002	%		----	----	----	**94.1**	----
13C4-PFOS	----	0.02	%		**93.7**	**99.3**	**106**	----	**95.4**
13C8-PFOA	----	0.002	%		----	----	----	**90.4**	----
13C8-PFOA	----	0.02	%		**93.5**	**95.8**	**104**	----	**96.7**

Surrogate Control Limits

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

QUALITY CONTROL REPORT

Work Order	: **ES2506606**	Page	: 1 of 8
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]		
[redacted] Dangar 2309		Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Order number	: 540003363	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 09-May-2025
Sampler	: [redacted]		
Site	: 0906		
Quote number	: JACOBS MSA		
No. of samples received	: 20		
No. of samples analysed	: 20		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Organic Chemist	Sydney Organics, Smithfield, NSW

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: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	0.015	0.014	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	0.015	0.015	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	0.116	0.112	3.3	0% - 20%
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	0.005	0.005	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506606-006	0906_MW304_250227	EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	<0.002	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: 6427548) - continued									
ES2506606-006	0906_MW304_250227	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	0.010	0.010	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	0.028	0.028	0.0	0% - 50%
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	0.004	0.004	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	0.005	0.006	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2506606-006	0906_MW304_250227	EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 6427548) - continued									
ES2506594-012	Anonymous	EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506606-006	0906_MW304_250227	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	<0.002	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 6427548)									
ES2506594-012	Anonymous	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	0.0	No Limit
ES2506606-006	0906_MW304_250227	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	<0.005	0.0	No Limit
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	<0.005	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: 6425936)								
EP231X: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.02	µg/L	<0.02	0.25 µg/L	86.7	70.0	130
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	79.9	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	92.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	91.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	90.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	95.3	65.0	140
EP231X: Perfluorononane sulfonic acid (PFNS)	68259-12-1	0.02	µg/L	<0.02	0.25 µg/L	84.6	70.0	130
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	81.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6427548)								
EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.01	µg/L	<0.01	0.025 µg/L	92.3	70.0	130
EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.002	µg/L	<0.002	0.025 µg/L	78.4	72.0	130
EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.002	µg/L	<0.002	0.025 µg/L	91.2	71.0	127
EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.002	µg/L	<0.002	0.025 µg/L	80.8	68.0	131
EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.002	µg/L	<0.002	0.025 µg/L	93.3	69.0	134
EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.002	µg/L	<0.002	0.025 µg/L	88.4	65.0	140
EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.002	µg/L	<0.002	0.025 µg/L	83.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6425936)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	85.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	88.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	87.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	86.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132
EP231X: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.05	µg/L	<0.05	0.25 µg/L	88.9	62.9	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548)								

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: 6427548) - continued								
EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.01	µg/L	<0.01	0.125 µg/L	90.6	73.0	129
EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.002	µg/L	<0.002	0.025 µg/L	96.0	72.0	129
EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.002	µg/L	<0.002	0.025 µg/L	86.8	72.0	129
EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.002	µg/L	<0.002	0.025 µg/L	92.9	72.0	130
EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.002	µg/L	<0.002	0.025 µg/L	91.6	71.0	133
EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.002	µg/L	<0.002	0.025 µg/L	88.5	69.0	130
EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.002	µg/L	<0.002	0.025 µg/L	92.5	71.0	129
EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.002	µg/L	<0.002	0.025 µg/L	97.9	69.0	133
EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.002	µg/L	<0.002	0.025 µg/L	94.3	72.0	134
EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.002	µg/L	<0.002	0.025 µg/L	82.8	65.0	144
EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.005	µg/L	<0.005	0.0625 µg/L	97.7	71.0	132
EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.005	µg/L	<0.005	0.025 µg/L	102	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6425936)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	90.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	87.8	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	87.8	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.4	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	83.7	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548)								
EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.002	µg/L	<0.002	0.025 µg/L	92.0	67.0	137
EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.005	µg/L	<0.005	0.0625 µg/L	108	68.0	141
EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.005	µg/L	<0.005	0.0625 µg/L	93.1	61.1	139
EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.005	µg/L	<0.005	0.0625 µg/L	93.6	72.3	128
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.005	µg/L	<0.005	0.0625 µg/L	96.9	63.2	134
EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.002	µg/L	<0.002	0.025 µg/L	101	65.0	136
EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.002	µg/L	<0.002	0.025 µg/L	96.4	61.0	135

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6425936)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	80.1	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	92.5	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	95.5	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	82.1	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6427548)								
EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.005	µg/L	<0.005	0.025 µg/L	85.0	63.0	143
EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.005	µg/L	<0.005	0.025 µg/L	116	64.0	140
EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.005	µg/L	<0.005	0.025 µg/L	103	67.0	138
EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.005	µg/L	<0.005	0.025 µg/L	78.9	75.2	137

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 6427548)							
ES2506606-001	0906_MW249_250225	EP231X-LL: Perfluoropropane sulfonic acid (PFPrS)	423-41-6	0.025 µg/L	97.5	70.0	130
		EP231X-LL: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.025 µg/L	84.3	72.0	130
		EP231X-LL: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.025 µg/L	90.3	71.0	127
		EP231X-LL: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.025 µg/L	84.6	68.0	131
		EP231X-LL: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.025 µg/L	104	69.0	134
		EP231X-LL: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.025 µg/L	85.6	65.0	140
		EP231X-LL: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.025 µg/L	89.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548)							
ES2506606-001	0906_MW249_250225	EP231X-LL: Perfluorobutanoic acid (PFBA)	375-22-4	0.125 µg/L	91.4	73.0	129
		EP231X-LL: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.025 µg/L	100	72.0	129
		EP231X-LL: Perfluorohexanoic acid (PFHxA)	307-24-4	0.025 µg/L	95.8	72.0	129
		EP231X-LL: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.025 µg/L	90.2	72.0	130
		EP231X-LL: Perfluorooctanoic acid (PFOA)	335-67-1	0.025 µg/L	96.8	71.0	133
		EP231X-LL: Perfluorononanoic acid (PFNA)	375-95-1	0.025 µg/L	91.2	69.0	130
		EP231X-LL: Perfluorodecanoic acid (PFDA)	335-76-2	0.025 µg/L	93.9	71.0	129
		EP231X-LL: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.025 µg/L	99.7	69.0	133
		EP231X-LL: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.025 µg/L	106	72.0	134
		EP231X-LL: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.025 µg/L	86.0	65.0	144
		EP231X-LL: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0625 µg/L	97.7	71.0	132

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 6427548) - continued							
ES2506606-001	0906_MW249_250225	EP231X-LL: Perfluorohexadecanoic acid (PFHxDA)	67905-19-5	0.025 µg/L	95.6	65.6	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 6427548)							
ES2506606-001	0906_MW249_250225	EP231X-LL: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.025 µg/L	97.2	67.0	137
		EP231X-LL: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0625 µg/L	107	68.0	141
		EP231X-LL: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0625 µg/L	99.6	61.1	139
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0625 µg/L	95.5	72.3	128
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0625 µg/L	103	63.2	134
		EP231X-LL: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.025 µg/L	96.8	65.0	136
		EP231X-LL: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.025 µg/L	90.7	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 6427548)							
ES2506606-001	0906_MW249_250225	EP231X-LL: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.025 µg/L	104	63.0	143
		EP231X-LL: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.025 µg/L	131	64.0	140
		EP231X-LL: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.025 µg/L	106	67.0	138
		EP231X-LL: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.025 µg/L	81.7	75.2	137

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2506606**	Page	: 1 of 6
Amendment	: **2**		
Client	: **JACOBS GROUP (AUSTRALIA) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: [redacted]	Telephone	: +61-2-8784 8555
Project	: NSW_0906_PFASOMP_25	Date Samples Received	: 06-Mar-2025
Site	: 0906	Issue Date	: 09-May-2025
Sampler	[redacted]	No. of samples received	: 20
Order number	: 540003363	No. of samples analysed	: 20

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, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

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

Method / *Container* / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X-LL)								
0906_MW249_250225		**25-Feb-2025**	**10-Mar-2025**	24-Aug-2025	✓	**12-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X)								
0906_QC301_250225		**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL)								
0906_SW286_250226		**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X)								
0906_QC301_250226, 0906_SW240_250226,	0906_SW236_250226, 0906_QC101_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL)								
0906_MW251_250227, 0906_MW304_250227, 0906_SW206_250227,	0906_MW252_250227, 0906_QC101_250227, 0906_SW261_250227	**27-Feb-2025**	**10-Mar-2025**	26-Aug-2025	✓	**12-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X)								
0906_QC301_250227, 0906_SW218_250227,	0906_SW104_250227, 0906_SW294_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X)								
0906_QC301_250228, 0906_SW310_250228	0906_QC501_250228,	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓

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-LL) 0906_MW249_250225	**25-Feb-2025**	**10-Mar-2025**	24-Aug-2025	✓	**12-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250225	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW286_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250226, 0906_SW236_250226, 0906_SW240_250226, 0906_QC101_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW251_250227, 0906_MW252_250227, 0906_MW304_250227, 0906_QC101_250227, 0906_SW206_250227, 0906_SW261_250227	**27-Feb-2025**	**10-Mar-2025**	26-Aug-2025	✓	**12-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250227, 0906_SW104_250227, 0906_SW218_250227, 0906_SW294_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250228, 0906_QC501_250228, 0906_SW310_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X-LL) 0906_MW249_250225	**25-Feb-2025**	**10-Mar-2025**	24-Aug-2025	✓	**12-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW286_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW236_250226, 0906_SW240_250226, 0906_QC101_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW251_250227, 0906_MW252_250227, 0906_MW304_250227, 0906_QC101_250227, 0906_SW206_250227, 0906_SW261_250227	**27-Feb-2025**	**10-Mar-2025**	26-Aug-2025	✓	**12-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW104_250227, 0906_SW218_250227, 0906_SW294_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_SW310_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓

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-LL) 0906_MW249_250225	**25-Feb-2025**	**10-Mar-2025**	24-Aug-2025	✓	**12-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250225	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW286_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250226, 0906_SW236_250226, 0906_SW240_250226, 0906_QC101_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW251_250227, 0906_MW252_250227, 0906_MW304_250227, 0906_QC101_250227, 0906_SW206_250227, 0906_SW261_250227	**27-Feb-2025**	**10-Mar-2025**	26-Aug-2025	✓	**12-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250227, 0906_SW104_250227, 0906_SW218_250227, 0906_SW294_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250228, 0906_QC501_250228, 0906_SW310_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X-LL) 0906_MW249_250225	**25-Feb-2025**	**10-Mar-2025**	24-Aug-2025	✓	**12-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250225	**25-Feb-2025**	**11-Mar-2025**	24-Aug-2025	✓	**13-Mar-2025**	24-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_SW286_250226	**26-Feb-2025**	**10-Mar-2025**	25-Aug-2025	✓	**12-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250226, 0906_SW236_250226, 0906_SW240_250226, 0906_QC101_250226	**26-Feb-2025**	**11-Mar-2025**	25-Aug-2025	✓	**13-Mar-2025**	25-Aug-2025	✓
HDPE (no PTFE) (EP231X-LL) 0906_MW251_250227, 0906_MW252_250227, 0906_MW304_250227, 0906_QC101_250227, 0906_SW206_250227, 0906_SW261_250227	**27-Feb-2025**	**10-Mar-2025**	26-Aug-2025	✓	**12-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250227, 0906_SW104_250227, 0906_SW218_250227, 0906_SW294_250227	**27-Feb-2025**	**11-Mar-2025**	26-Aug-2025	✓	**13-Mar-2025**	26-Aug-2025	✓
HDPE (no PTFE) (EP231X) 0906_QC301_250228, 0906_QC501_250228, 0906_SW310_250228	**28-Feb-2025**	**11-Mar-2025**	27-Aug-2025	✓	**13-Mar-2025**	27-Aug-2025	✓

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-LL	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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-LL	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
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-LL	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	16	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.
Per- and Polyfluoroalkyl Substances (PFAS by LCMSMS	EP231X-LL	WATER	In-house: Analysis of fresh and saline waters by solid phase extraction (SPE) followed by negative mode LC-ESI-MS/MS using MRM and isotope dilution or internal standard quantitation. Isotope dilution standards (where commercially available) and surrogates are added to the sample container. The entire contents are transferred to a weak anion exchange (WAX) 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. Data quality objectives for internal standard recoveries are based on US EPA method 1633.

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.

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2

Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB:

JACOBS PO

Quote #

[redacted]

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email

[redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	No. OF CONTAINERS	Low level PFAS (Tasmanian Suite)	Tasmanian PFAS (Tasmanian Suite)	PFAS (Reduced Suite)	Hold			
	0906_QC201_250226		x				x				26/02/2025			X					
	0906_QC201_250227		x				x				27/02/2025		X						

Receipt Detail (Lab Use ONLY)	Chill Method: e / Ice bricks / no	Sample Temp at receipt	°C	°C	°C	Carrier Details : Courier/Post , Client	Packaging (circle): Hard Esky / Foam Esky / Box/bag/other
Relinquished by:	Sophia Berlyn	Signature:	SGBerlyn	Date/Time	4/03/2025	Received by:	Date/Time

Brendan
4/03/25
12:45PM
2.6

Subcon / Forward Lab / Split WO Eurofins
Lab / Analysis:
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No: ES2506606
Attached By PO / Internal Sheet:

Environmental Division Sydney
Work Order Reference
ES2506606

Telephone : + 61-2-8784 8555

1196147

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2

Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins

JACOBS PO#: [redacted]

Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419100

ANALYSIS REQUIRED

Email: [redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250228		x				x				28/02/2025		X							

Receipt Detail (Lab Use ONLY)

Chill Method: e / Ice bricks / no

Sample Temp at receipt: °C °C °C

Carrier Details : Courier/Post Client

Packaging (circle): Hard Esky Foam Esky Box/bag/other

Relinquished by:	Sophia Berlyn	Signature:	SGBerlyn	Date/Time	4/03/2025
Received by:				Date/Time	

Jacobs

Jacobs Group (Australia) Pty L | Ph: + 61 2 4924 2600
PO Box 2147, Dangar, NSW, 2: | ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins
JACOBS PO[redacted]
Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	IS419106

Email: [redacted]

Email:

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	No. OF CONTAINERS	ANALYSIS REQUIRED: Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC201_250225		x				x				25/02/2025		X							
	0906_QC202_250226		x				x				26/02/2025			X						

Receipt Detail (Lab Use ONLY)	Chill Method: e / Ice bricks / no	Sample Temp at receipt	°C °C °C	Carrier Details :	Courier/Post , Client	Packaging (circle):	Hard Esky	Foam Esky	Box/bag/other

Relinquished by:	Sophia Berlyn	Signature:	SCBerlyn	Date/Time	4/03/2025
Received by:		Date/Time			

Jacobs

Jacobs Group (Australia) Pty Ltd
PO Box 2147, Dangar, NSW, 2

Ph: + 61 2 4924 2600
ABN: 37 001 024 095

CHAIN OF CUSTODY & ANALYSIS REQUEST

COC 1 of 1 (1 page)

LAB: Eurofins

JACOBS P [redacted]

Quote #

TURNAROUND: 5+ days (no surcharge)

Project ID (ESdat)	NSW_0906_PFASOMP_25
Site ID (ESdat)	0906
Project Manager	[redacted]
Sample Collectors	
Jacobs Reference	134197.00

ANALYSIS REQUIRED

Email [redacted]

Email

LAB #	SAMPLE ID	Depth	MATRIX: WATER	SOIL	AIR	OTHER	PRESERVATION METHOD: ICE	ACID	OTHER	NONE	SAMPLE DATE	NO. OF CONTAINERS	Low Level PFAS (Standard Suite)	Standard PFAS (Standard Suite)	PFAS (Reduced Suite)	Hold				COMMENTS
	0906_QC203_250226		x				x				26/02/2025		X							

Receipt Detail (Lab Use ONLY)	Chill Method: e	Ice bricks / no	Sample Temp at receipt	°C	°C	°C	Carrier Details : Courier/Post	Client	Packaging (circle): Hard Esky	Foam Esky	Box/bag/other

Relinquished by:	Sophia Berlyn	Signature:	SGBerlyn	Date/Time	4/03/2025
Received by:		Date/Time			

eurofins | Environment Testing

www.eurofins.com.au EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Sample Receipt Advice

Company name: Jacobs Group (Australia) P/L NSW
Contact name: [redacted]
Project name: Not provided
Project ID: NSW_0906_PFASOMP_25
Turnaround time: 5 Day
Date/Time received Mar 10, 2025 12:45 PM
Eurofins reference 1196147

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Andrew Black on phone : (+61) 2 9900 8490 or by email: Andrew.Black@eurofinsanz.com

Results will be delivered electronically via email to Grant Moylan - Grant.Moylan@jacobs.com.

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Jacobs Group (Australia) P/L NSW
Address: Level 7, 177 Pacific Highway
North Sydney
NSW 2065

Project Name:
Project ID: NSW_0906_PFASOMP_25

Order No.: 540003360
Report #: 1196147
Phone: 02 9928 2100
Fax: 02 9928 2504

Received: Mar 10, 2025 12:45 PM
Due: Mar 17, 2025
Priority: 5 Day
Contact Name: [redacted]

Eurofins Analytical Services Manager [redacted]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	0906_QC201_250226	Feb 26, 2025		Soil	S25-Ma0020612	X	X	
2	0906_QC201_250227	Feb 27, 2025		Soil	S25-Ma0020613	X		X
3	0906_QC201_250228	Feb 28, 2025		Soil	S25-Ma0020614	X		X
4	0906_QC201_250225	Feb 25, 2025		Soil	S25-Ma0020615	X		X
5	0906_QC202_250226	Feb 26, 2025		Soil	S25-Ma0020616	X	X	
6	0906_QC203_250226	Feb 26, 2025		Soil	S25-Ma0020617	X		X
Test Counts						6	2	4

Jacobs Group (Australia) P/L NSW
Level 7, 177 Pacific Highway
North Sydney
NSW 2065

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: [redacted]

Report **1196147-W**
Project name
Project ID NSW_0906_PFASOMP_25
Received Date Mar 10, 2025

Client Sample ID			0906_QC201_250226	0906_QC201_250227	0906_QC201_250228	0906_QC201_250225
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ma0020612	S25-Ma0020613	S25-Ma0020614	S25-Ma0020615
Date Sampled			Feb 26, 2025	Feb 27, 2025	Feb 28, 2025	Feb 25, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05	-	-	-
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01	-	-	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01	-	-	-
13C4-PFBA (surr.)	1	%	98	-	-	-
13C5-PFPeA (surr.)	1	%	103	-	-	-
13C5-PFHxA (surr.)	1	%	126	-	-	-
13C4-PFHpA (surr.)	1	%	129	-	-	-
13C8-PFOA (surr.)	1	%	140	-	-	-
13C5-PFNA (surr.)	1	%	142	-	-	-
13C6-PFDA (surr.)	1	%	116	-	-	-
13C2-PFUnDA (surr.)	1	%	114	-	-	-
13C2-PFDoDA (surr.)	1	%	101	-	-	-
13C2-PFTeDA (surr.)	1	%	86	-	-	-
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05	-	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05	-	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05	-	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05	-	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05	-	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05	-	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05	-	-	-
13C8-FOSA (surr.)	1	%	105	-	-	-
D3-N-MeFOSA (surr.)	1	%	78	-	-	-

Client Sample ID			0906_QC201_250226	0906_QC201_250227	0906_QC201_250228	0906_QC201_250225
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ma0020612	S25-Ma0020613	S25-Ma0020614	S25-Ma0020615
Date Sampled			Feb 26, 2025	Feb 27, 2025	Feb 28, 2025	Feb 25, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSA (surr.)	1	%	81	-	-	-
D7-N-MeFOSE (surr.)	1	%	78	-	-	-
D9-N-EtFOSE (surr.)	1	%	76	-	-	-
D5-N-EtFOSAA (surr.)	1	%	100	-	-	-
D3-N-MeFOSAA (surr.)	1	%	91	-	-	-
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01	-	-	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01	-	-	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.01	-	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.01	-	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	< 0.01	-	-	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01	-	-	-
13C3-PFBS (surr.)	1	%	122	-	-	-
18O2-PFHxS (surr.)	1	%	124	-	-	-
13C8-PFOS (surr.)	1	%	110	-	-	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01	-	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	-	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01	-	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01	-	-	-
13C2-4:2 FTSA (surr.)	1	%	INT	-	-	-
13C2-6:2 FTSA (surr.)	1	%	INT	-	-	-
13C2-8:2 FTSA (surr.)	1	%	179	-	-	-
13C2-10:2 FTSA (surr.)	1	%	130	-	-	-
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	-	-	-
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	-	-	-
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	-	-	-
PFASs Summations						
Sum (PFHxS + PFOS)*	0.001	ug/L	-	0.003	< 0.001	0.004
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	-	0.003	< 0.001	0.004
Sum of PFASs (n=30)*	0.005	ug/L	-	< 0.005	0.008	0.006
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	-	0.002	< 0.001	< 0.001
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	-	< 0.005	0.008	0.006
Perfluoroalkyl sulfonamido substances- Trace						
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005

Client Sample ID			0906_QC201_250226	0906_QC201_250227	0906_QC201_250228	0906_QC201_250225
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ma0020612	S25-Ma0020613	S25-Ma0020614	S25-Ma0020615
Date Sampled			Feb 26, 2025	Feb 27, 2025	Feb 28, 2025	Feb 25, 2025
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances- Trace						
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
13C8-FOSA (surr.)	1	%	-	98	100	96
D3-N-MeFOSA (surr.)	1	%	-	82	80	78
D5-N-EtFOSA (surr.)	1	%	-	80	75	73
D7-N-MeFOSE (surr.)	1	%	-	72	67	72
D9-N-EtFOSE (surr.)	1	%	-	75	65	66
D5-N-EtFOSAA (surr.)	1	%	-	123	105	104
D3-N-MeFOSAA (surr.)	1	%	-	92	84	95
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	-	< 0.005	< 0.005	< 0.005
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
13C4-PFBA (surr.)	1	%	-	100	99	89
13C5-PFPeA (surr.)	1	%	-	105	114	111
13C5-PFHxA (surr.)	1	%	-	125	107	114
13C4-PFHpA (surr.)	1	%	-	113	104	115
13C8-PFOA (surr.)	1	%	-	111	108	113
13C5-PFNA (surr.)	1	%	-	103	113	103
13C6-PFDA (surr.)	1	%	-	110	102	99
13C2-PFUnDA (surr.)	1	%	-	110	107	97
13C2-PFDoDA (surr.)	1	%	-	98	85	94
13C2-PFTeDA (surr.)	1	%	-	68	54	63
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	-	< 0.001	< 0.001	0.002
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	-	0.001	< 0.001	0.004
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	-	0.002	< 0.001	< 0.001
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
13C3-PFBS (surr.)	1	%	-	147	89	130
18O2-PFHxS (surr.)	1	%	-	102	118	109
13C8-PFOS (surr.)	1	%	-	110	105	104

Client Sample ID			0906_QC201_250226	0906_QC201_250227	0906_QC201_250228	0906_QC201_250225
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ma0020612	S25-Ma0020613	S25-Ma0020614	S25-Ma0020615
Date Sampled			Feb 26, 2025	Feb 27, 2025	Feb 28, 2025	Feb 25, 2025
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	-	< 0.005	0.008	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	-	< 0.001	< 0.001	< 0.001
13C2-4:2 FTSA (surr.)	1	%	-	151	169	111
13C2-6:2 FTSA (surr.)	1	%	-	125	127	120
13C2-8:2 FTSA (surr.)	1	%	-	100	108	108
13C2-10:2 FTSA (surr.)	1	%	-	108	107	100

Client Sample ID			0906_QC202_250226	0906_QC203_250226
Sample Matrix			Water	Water
Eurofins Sample No.			S25-Ma0020616	S25-Ma0020617
Date Sampled			Feb 26, 2025	Feb 26, 2025
Test/Reference	LOR	Unit		
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05	-
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.01	-
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	0.06	-
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01	-
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	0.01	-
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01	-
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01	-
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01	-
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01	-
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01	-
13C4-PFBA (surr.)	1	%	112	-
13C5-PFPeA (surr.)	1	%	132	-
13C5-PFHxA (surr.)	1	%	125	-
13C4-PFHpA (surr.)	1	%	129	-
13C8-PFOA (surr.)	1	%	135	-
13C5-PFNA (surr.)	1	%	142	-
13C6-PFDA (surr.)	1	%	111	-
13C2-PFUnDA (surr.)	1	%	118	-
13C2-PFDoDA (surr.)	1	%	72	-
13C2-PFTeDA (surr.)	1	%	98	-
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05	-

Client Sample ID			0906_QC202_250226	0906_QC203_250226
Sample Matrix			Water	Water
Eurofins Sample No.			S25-Ma0020616	S25-Ma0020617
Date Sampled			Feb 26, 2025	Feb 26, 2025
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances				
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05	-
13C8-FOSA (surr.)	1	%	64	-
D3-N-MeFOSA (surr.)	1	%	70	-
D5-N-EtFOSA (surr.)	1	%	69	-
D7-N-MeFOSE (surr.)	1	%	76	-
D9-N-EtFOSE (surr.)	1	%	79	-
D5-N-EtFOSAA (surr.)	1	%	93	-
D3-N-MeFOSAA (surr.)	1	%	88	-
Perfluoroalkyl sulfonic acids (PFSAs)				
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	0.01	-
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	0.01	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	0.18	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	0.01	-
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	0.50	-
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01	-
13C3-PFBS (surr.)	1	%	142	-
18O2-PFHxS (surr.)	1	%	114	-
13C8-PFOS (surr.)	1	%	103	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01	-
13C2-4:2 FTSA (surr.)	1	%	INT	-
13C2-6:2 FTSA (surr.)	1	%	INT	-
13C2-8:2 FTSA (surr.)	1	%	INT	-
13C2-10:2 FTSA (surr.)	1	%	187	-
PFASs Summations				
Sum (PFHxS + PFOS)*	0.01	ug/L	0.68	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.51	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.69	-
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	0.76	-
Sum of PFASs (n=30)*	0.1	ug/L	0.78	-
PFASs Summations				
Sum (PFHxS + PFOS)*	0.001	ug/L	-	0.005
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	-	0.005
Sum of PFASs (n=30)*	0.005	ug/L	-	0.014
Sum of US EPA PFAS (PFOS + PFOA)*	0.001	ug/L	-	0.001
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	-	0.014

Client Sample ID			0906_QC202_250226	0906_QC203_250226
Sample Matrix			Water	Water
Eurofins Sample No.			S25-Ma0020616	S25-Ma0020617
Date Sampled			Feb 26, 2025	Feb 26, 2025
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonamido substances- Trace				
Perfluorooctane sulfonamide (FOSA)[N11]	0.005	ug/L	-	< 0.005
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.005	ug/L	-	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.005	ug/L	-	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.005	ug/L	-	< 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.005	ug/L	-	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.005	ug/L	-	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.005	ug/L	-	< 0.005
13C8-FOSA (surr.)	1	%	-	107
D3-N-MeFOSA (surr.)	1	%	-	84
D5-N-EtFOSA (surr.)	1	%	-	81
D7-N-MeFOSE (surr.)	1	%	-	74
D9-N-EtFOSE (surr.)	1	%	-	74
D5-N-EtFOSAA (surr.)	1	%	-	113
D3-N-MeFOSAA (surr.)	1	%	-	95
Perfluoroalkyl carboxylic acids (PFCAs) - Trace				
Perfluorobutanoic acid (PFBA)[N11]	0.005	ug/L	-	< 0.005
Perfluoropentanoic acid (PFPeA)[N11]	0.001	ug/L	-	< 0.001
Perfluorohexanoic acid (PFHxA)[N11]	0.001	ug/L	-	< 0.001
Perfluoroheptanoic acid (PFHpA)[N11]	0.001	ug/L	-	< 0.001
Perfluorooctanoic acid (PFOA)[N11]	0.001	ug/L	-	< 0.001
Perfluorononanoic acid (PFNA)[N11]	0.001	ug/L	-	< 0.001
Perfluorodecanoic acid (PFDA)[N11]	0.001	ug/L	-	< 0.001
Perfluorotridecanoic acid (PFTrDA)[N15]	0.001	ug/L	-	< 0.001
Perfluoroundecanoic acid (PFUnDA)[N11]	0.001	ug/L	-	< 0.001
Perfluorododecanoic acid (PFDoDA)[N11]	0.001	ug/L	-	< 0.001
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.001	ug/L	-	< 0.001
13C4-PFBA (surr.)	1	%	-	92
13C5-PFPeA (surr.)	1	%	-	110
13C5-PFHxA (surr.)	1	%	-	120
13C4-PFHpA (surr.)	1	%	-	130
13C8-PFOA (surr.)	1	%	-	101
13C5-PFNA (surr.)	1	%	-	127
13C6-PFDA (surr.)	1	%	-	100
13C2-PFUnDA (surr.)	1	%	-	91
13C2-PFDoDA (surr.)	1	%	-	100
13C2-PFTeDA (surr.)	1	%	-	63
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				
Perfluorobutanesulfonic acid (PFBS)[N11]	0.001	ug/L	-	< 0.001
Perfluorononanesulfonic acid (PFNS)[N15]	0.001	ug/L	-	< 0.001
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.001	ug/L	-	< 0.001
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.001	ug/L	-	< 0.001
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.001	ug/L	-	0.004
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.001	ug/L	-	< 0.001
Perfluorooctanesulfonic acid (PFOS)[N11]	0.001	ug/L	-	0.001
Perfluorodecanesulfonic acid (PFDS)[N15]	0.001	ug/L	-	< 0.001

Client Sample ID			0906_QC202_250226	0906_QC203_250226
Sample Matrix			Water	Water
Eurofins Sample No.			S25-Ma0020616	S25-Ma0020617
Date Sampled			Feb 26, 2025	Feb 26, 2025
Test/Reference	LOR	Unit		
Perfluoroalkyl sulfonic acids (PFSAs)- Trace				
13C3-PFBS (surr.)	1	%	-	113
18O2-PFHxS (surr.)	1	%	-	118
13C8-PFOS (surr.)	1	%	-	100
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.001	ug/L	-	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.005	ug/L	-	0.009
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.001	ug/L	-	< 0.001
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.001	ug/L	-	< 0.001
13C2-4:2 FTSA (surr.)	1	%	-	134
13C2-6:2 FTSA (surr.)	1	%	-	104
13C2-8:2 FTSA (surr.)	1	%	-	117
13C2-10:2 FTSA (surr.)	1	%	-	110

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Sydney	Mar 11, 2025	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonamido substances- Trace	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Sydney	Mar 13, 2025	28 Day
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Sydney	Mar 13, 2025	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	NSW 2304
+61 3 8564 5000	+61 3 8564 5000	+61 2 9900 8400	+61 2 6113 8091	+61 7 3902 4600	+61 2 4968 8448
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794 & 2780	Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road	Unit C1/4 Pacific Rise	43 Detroit Drive	1277 Cameron Road
Penrose	Mount Wellington	Rolleston	Gate Pa
Auckland 1061	Auckland 1061	Christchurch 7675	Tauranga 3112
+64 9 526 4551	+64 9 525 0568	+64 3 343 5201	+64 9 525 0568
IANZ# 1327	IANZ# 1308	IANZ# 1290	IANZ# 1402

Company Name: Jacobs Group (Australia) P/L NSW
Address: Level 7, 177 Pacific Highway
North Sydney
NSW 2065

Project Name:
Project ID: NSW_0906_PFASOMP_25

Order No.: 540003360
Report #: 1196147
Phone: 02 9928 2100
Fax: 02 9928 2504

Received: Mar 10, 2025 12:45 PM
Due: Mar 17, 2025
Priority: 5 Day
Contact Name: [redacted]

Eurofins Analytical Services Manager : [redacted]

Sample Detail						Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	0906_QC201_250226	Feb 26, 2025		Soil	S25-Ma0020612	X	X	
2	0906_QC201_250227	Feb 27, 2025		Soil	S25-Ma0020613	X		X
3	0906_QC201_250228	Feb 28, 2025		Soil	S25-Ma0020614	X		X
4	0906_QC201_250225	Feb 25, 2025		Soil	S25-Ma0020615	X		X
5	0906_QC202_250226	Feb 26, 2025		Soil	S25-Ma0020616	X	X	
6	0906_QC203_250226	Feb 26, 2025		Soil	S25-Ma0020617	X		X
Test Counts						6	2	4

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005			0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005			0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005			0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.005			0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005			0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005			0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005			0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001			0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001			0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001			0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001			0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001			0.001	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001			0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001			0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001			0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001			0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001			0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001			0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001			0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001			0.001	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005			0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001			0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	87			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	95			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	78			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	72			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	80			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	74			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	89			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	89			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	88			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	95			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	101			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	78			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	88			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	87			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	84			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	85			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	87			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	84			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	65			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	77			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	65			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	57			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	81			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanesulfonic acid (PFHpS)	%	82			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	80			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	76			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	113			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	84			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	86			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	85			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances- Trace							
Perfluorooctane sulfonamide (FOSA)	%	99			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	96			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	93			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	86			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	93			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	90			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	93			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs) - Trace							
Perfluorobutanoic acid (PFBA)	%	83			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	93			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	96			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	80			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	86			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	96			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	106			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	99			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	90			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	90			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	93			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)- Trace							
Perfluorobutanesulfonic acid (PFBS)	%	115			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	77			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	86			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	77			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	67			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	74			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	90			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	77			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	83			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	86			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	86			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	80			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S25-Ma0015287	NCP	%	89			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S25-Ma0015287	NCP	%	79			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S25-Ma0015287	NCP	%	75			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanoic acid (PFHpA)	S25-Ma0015287	NCP	%	84			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S25-Ma0015287	NCP	%	60			50-150	Pass	
Perfluorononanoic acid (PFNA)	S25-Ma0015287	NCP	%	82			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S25-Ma0015287	NCP	%	90			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S25-Ma0015287	NCP	%	89			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S25-Ma0015287	NCP	%	96			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	S25-Ma0015287	NCP	%	101			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S25-Ma0015287	NCP	%	91			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S25-Ma0015287	NCP	%	84			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S25-Ma0015287	NCP	%	92			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S25-Ma0015287	NCP	%	100			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S25-Ma0015287	NCP	%	90			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S25-Ma0015287	NCP	%	98			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S25-Ma0015287	NCP	%	94			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S25-Ma0015287	NCP	%	88			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S25-Ma0015287	NCP	%	86			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S25-Ma0015287	NCP	%	73			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S25-Ma0015287	NCP	%	72			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S25-Ma0015287	NCP	%	80			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S25-Ma0015287	NCP	%	94			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S25-Ma0015287	NCP	%	79			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S25-Ma0015287	NCP	%	55			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	S25-Ma0015287	NCP	%	75			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S25-Ma0015287	NCP	%	88			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S25-Ma0015287	NCP	%	84			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S25-Ma0015287	NCP	%	94			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S25-Ma0015287	NCP	%	80			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S25-Ma0026639	NCP	ug/L	0.02	0.02	20	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S25-Ma0026639	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S25-Ma0026639	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

[redacted]

Analytical Services Manager

Senior Analyst-PFAS

Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Appendix F. Groundwater Elevations (October 2023 to February 2025)