Prepared for
Department of Defence Directorate of
PFAS Remediation (DPFASR),
Environment and Engineering (EE) Branch
ABN: 68706814312

AECOM

Ongoing Monitoring Interpretive Report 2022

PFAS OMP - RAAF Base Edinburgh

08-Jul-2024
PFAS Ongoing Monitoring Plan
Doc No. 60612651_EDN_RP_2022InterpRpt_A_20230130

aecom.com

Delivering a better world

Ongoing Monitoring Interpretive Report 2022

PFAS OMP - RAAF Base Edinburgh

Client: Department of Defence Directorate of PFAS Remediation (DPFASR), Environment and Engineering (EE) Branch

ABN: 68706814312

Prepared by

,

08-Jul-2024

Job No.: 60612561

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

Quality Information

Document Ongoing Monitoring Interpretive Report 2022

Ref 60612561

Date 08-Jul-2024

Prepared by [redacted]

Reviewed by [redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	08-Jul-2024	Final	[redacted] Principal Environmental Scientist	[redacted]

Table of Contents

Executive Summary i
Abbreviations and acronyms 1
1.0 Introduction 3
1.1 Purpose and objectives 3
1.2 Scope 3
2.0 Site setting 4
2.1 Site description 4
2.2 Management area 5
2.3 Groundwater Prohibition Area 5
2.4 Source areas 5
3.0 Sampling and analytical scope and methodology 7
3.1 Sampling and analysis methodology 7
3.2 Summary of OMP works in 2022 7
3.3 Deviations from the SAQP 7
3.4 Changes to the monitoring network 8
4.0 Quality assurance and quality control 9
5.0 Assessment criteria 10
6.0 Contextual and ancillary information 11
6.1 Additional analytical data 11
6.2 Remediation projects 11
6.3 Infrastructure projects 12
6.4 Climate 13
7.0 Monitoring data summary 15
7.1 Groundwater 15
7.1.1 Groundwater field observations 15
7.1.2 Groundwater elevations 15
7.1.3 Groundwater flow directions 15
7.1.4 Groundwater physiochemical parameters 15
7.1.5 Groundwater analytical results 16
7.1.6 Background locations PFAS analytical results 20
7.1.7 Source area P4 PFAS analytical results 24
7.1.8 Source areas P9 and P15A/B, P11, P16 and P21 PFAS analytical results 27
7.1.9 Source areas P1, P3A, P3B and P27 PFAS analytical results 32
7.1.10 Southern, western and northern boundary PFAS analytical results 36
7.1.11 Helps Road Drain PFAS analytical results 42
7.1.12 Off-Base lateral extent of PFAS analytical results 46
7.1.13 Proximity to identified licensed groundwater users and private bore PFAS analytical results 50
7.1.14 Tertiary aquifer bores PFAS analytical results 53
7.2 Surface water 56
7.2.1 Surface water field observations 56
7.2.2 Surface water physicochemical parameters 56
7.2.3 Surface water analytical results 56
7.2.4 Upgradient (on- and off-Base) surface water PFAS results 59
7.2.5 On-Base surface water PFAS results 60
7.2.6 Helps Road Drain (off-Base) surface water PFAS results 62
7.2.7 Kaurna Park Wetland (off-Base) surface water PFAS results 63
8.0 Interpretive analysis 66
8.1 Hydrogeology 66
8.2 Groundwater results 67
8.2.1 On-Base groundwater 67
8.2.2 Off-Base groundwater 71
8.3 Surface water 73
8.3.1 On-Base surface water 73

8.3.2 Off-Base surface water 73
9.0 Discussion 74
9.1 Conceptual site model 74
9.2 Risk profile 75
9.2.1 Groundwater 75
9.2.2 Surface water 76
9.3 Assessment of current OMP 76
10.0 Conclusion 76
11.0 References 78

Appendix A
Figures A

Appendix B
SAQP B

Appendix C
Factual Reports C

Appendix D
Analytical Tables D

Appendix E
Mann-Kendall Analysis E

Appendix F
Groundwater Elevations and PFAS Concentrations F

Appendix G
Registered Groundwater Bore Search G

List of Figures

Figure 1 P9 excavation 6 June 2022 12
Figure 2 2021/2022 Rainfall data and mean monthly rainfall for RAAF Base Edinburgh (Station 023083) (BOM, 2022) 13
Figure 3 Monthly mean maximum temperature 2021-2022 and long-term mean (Station 023083) (BOM, 2022) 14
Figure 4 Background sample locations. 22
Figure 5 Q1 monitoring wells PFOS+PFHxS concentration trends at background locations. Historical results for destroyed well MW4011 (destroyed in 2017) have been incorporated into replacement location MW4218 results. 23
Figure 6 Q2 monitoring wells PFOS+PFHxS concentration trends at background locations 23
Figure 7 Source area P4 sampled locations 25
Figure 8 Q1 monitoring wells PFOS+PFHxS concentration trends at source area P4. Logarithmic scale on the y-axis for display purposes 26
Figure 9 Q2 monitoring wells PFOS+PFHxS concentration trends at source area P4 26
Figure 10 Sampled locations in P9, P15A/B, P11, P16 and P21 30
Figure 11 Q1 monitoring wells PFOS+PFHxS concentration trends at source areas P9 and P15A/B, P11, P16 and P21 (below 1000 µg/L) 31
Figure 12 Q1 and Q2 monitoring wells PFOS+PFHxS concentration trends at source areas P9 and P15A/B, P11, P16 and P21 (above 1000 µg/L)* 31
Figure 13 Q2, Q3 and Q4 monitoring wells PFOS+PFHxS concentration trends at source areas P9 and P15A/B, P11, P16 and P21 (below 1000 µg/L)* 32
Figure 14 P1, P3A, P3B and P27 sampled locations 34
Figure 15 Q1 monitoring wells PFOS+PFHxS concentration trends at source areas P1, P3A, P3B and P27 (below 200 µg/L) * 35
Figure 16 Q1 monitoring wells PFOS+PFHxS concentration trends at source areas P1, P3A, P3B and P27 (above 200 µg/L) 35
Figure 17 Q2 monitoring wells PFOS+PFHxS concentration trends at source areas P1, P3A, P3B and P27* 36

Figure 18 Southern, western and northern boundary sampled locations 39
Figure 19 Southern boundary PFOS+PFHxS concentration trends* 40
Figure 20 Western boundary PFOS+PFHxS concentration trends (below 3 µg/L)* 40
Figure 21 Western boundary PFOS+PFHxS concentration trends (above 3 µg/L) 41
Figure 22 Northern boundary PFOS+PFHxS concentration trends 41
Figure 23 Helps Road drain sampled locations 44
Figure 24 Q1 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain 45
Figure 25 Q2 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain* 45
Figure 26 Q3 and Q4 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain 46
Figure 27 Off-Base lateral extent sampled locations 49
Figure 28 Monitoring locations characterising the lateral extent of PFOS+PFHxS concentration trends. *Includes MW4063 (replaced location) results. 50
Figure 29 Sampled locations with proximity to identified licensed groundwater users 52
Figure 30 Q1 and Q2 monitoring locations with proximity to identified groundwater users PFOS+PFHxS concentration trends 53
Figure 31 Q3 and Q4 monitoring locations with proximity to identified groundwater users PFOS+PFHxS concentration trends 53
Figure 32 Sampled locations of T1 aquifer bores 55
Figure 33 Upgradient surface water locations PFOS+PFHxS concentration trends* 60
Figure 34 On-Base surface water PFOS+PFHxS concentration trends* 62
Figure 35 Helps Road Drain (off-Base) surface water PFOS+PFHxS concentration trends* 63
Figure 36 Kaurna Park Wetlands surface water PFOS+PFHxS concentration trends* 64
Figure 37 Groundwater elevation in the Q3 well network 67

List of Tables

Table 1 Site Setting and CSM Summary 4
Table 2 Summary of deviations from the SAQP 7
Table 3 Summary of Adopted Screening Criteria 10
Table 4 Groundwater field parameter ranges (min – max) 15
Table 5 Summary of PFAS in groundwater 17
Table 6 Groundwater results - new exceedances of PFOS+PFHxS and/or PFOA 18
Table 7 Groundwater results – new maximum concentrations of PFOS+PFHxS and/or PFOA 18
Table 8 Groundwater results – new minimum concentrations of PFOS+PFHxS and/or PFOA 19
Table 9 Background locations on- and off-Base PFAS summary results (µg/L) 21
Table 10 Source area P4 PFAS Summary Results (µg/L) 24
Table 11 Source areas P9 and P15A/B, P11, P16 and P21 PFAS summary results (µg/L) 27
Table 12 Source areas P1, P3A, P3B and P27 PFAS summary results (µg/L) 33
Table 13 Southern, western and northern boundary PFAS summary results (µg/L) 37
Table 14 Helps Road Drain PFAS summary results (µg/L) 42
Table 15 Lateral extent of PFAS summary results (µg/L) 47
Table 16 Proximity to identified licensed groundwater users and private bore PFAS summary results (µg/L) 51
Table 17 Tertiary aquifer bores PFAS summary results (µg/L) 54
Table 18 Summary of PFAS in surface water 57
Table 19 Surface water results - first-time detections of PFOA 58
Table 20 Surface Water Results – New Maximum Concentrations of PFOS+PFHxS and PFOA 58
Table 21 Surface water results – new minimum concentrations of PFOS+PFHxS 59
Table 22 Upgradient surface water PFAS summary results (µg/L) 59
Table 23 On-Base surface water PFAS summary results (µg/L) 60
Table 24 Helps Road Drain (off-Base) PFAS summary results (µg/L) 62
Table 25 Kaurna Park Wetland (off-Base) PFAS summary results (µg/L) 64
Table 26 Mann-Kendall analysis for on-Base locations 69
Table 27 Off-Base Mann-Kendall analysis results 72

Executive Summary

Background

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

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

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

Within the Management Area there were 12 locations identified as PFAS source areas that represent a significant source of PFAS contamination, as listed in Site Setting in the main report body.

Objective

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

Monitoring scope

AECOM completed periodic monitoring of groundwater and surface water between January and July 2022 in accordance with the sampling and analysis quality plan (SAQP) developed by AECOM (AECOM, 2022a). The monitoring targeted PFAS and included selected locations on-Base and in surrounding off-Base areas.

Interpretive analysis

Data collected during the monitoring period (January 2022 to July 2022) were compared to historical data for the included sampling locations.

PFAS concentrations within on-Base and off-Base groundwater were within the same order of magnitude as historical results and within the identified groundwater plume[2] (JBS&G, 2018). Historical monitoring data can be found in the Detailed Site Investigation (DSI) (JBS&G, 2018) and the 2021 Annual Interpretive Report (AECOM, 2021c).[1]

PFAS concentrations were observed to decrease with distance from on-Base identified Source Areas, with lower concentrations recorded in off-Base areas downgradient from on-Base source areas.

Statistical analysis of the monitoring results for on-Base groundwater locations indicate that PFAS may continue to be mobilised (released from PFAS impacted

What is an 'order of magnitude'?

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

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

[1] Available at defence.gov.au/environment/pfas/Edinburgh
[2] PFAS contaminant plumes are areas of groundwater with elevated PFAS concentrations that are slowly moving from the source areas in the same direction that the groundwater flows.

soil into groundwater) in Quaternary aquifers[3] underneath the Management Area (identified as Q1, Q2, Q3 and Q4). Ongoing monitoring is recommended to identify further potential trends in groundwater PFAS concentrations.

Few monitoring locations primarily in the Q1 aquifers within source areas and in proximity of source areas have reported have increasing trends, however, it is noted that these areas are the focus of remedial activities where reported PFAS concentrations are expected to decrease over time after completion of remediation activities.

PFAS concentrations in surface water at locations on-Base and off-Base were consistent with historical results.

Groundwater results

Groundwater Flow Direction

Groundwater results indicated that groundwater flows southwest across the Base, consistent with historical data. Groundwater elevations appeared to show minor differences between seasons at most monitoring locations (higher in wet season, lower in dry season); however, have remained stable over time.

PFAS Concentrations

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

The following was observed:

- The highest concentrations of PFAS in groundwater within the monitoring network are associated with PFAS source areas on-Base (specifically source area P11: current fire station and former AFFF concentrate storage area) and this is consistent with the identified PFAS plume (Defence, 2019).
- New exceedances of the PFAS National Environmental Management Plan (NEMP) 2.0 (HEPA, 2020) Human Health Drinking Water guideline for PFOS+PFHxS were detected at one on-Base (MW2202) location, located east of the main runway and adjacent to the engine run-up facility, and one off-Base location (MW4074), located on the corner of Bolivar Road and Beadell Street south of the Base boundary.
- PFAS concentrations at off-Base locations were consistent with historical results and were lower than those observed in the vicinity of source areas on-Base.
- PFAS concentrations at on-Base locations near source areas were reported to be potentially increasing, this may be due to PFAS continuing to mobilise to groundwater at some source areas. PFAS concentrations at off-Base locations are primarily decreasing or potentially decreasing.
- Exceedances of the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07 µg/L) guideline for PFAS at 18 off-Base locations were consistent in order of magnitude and location with historical exceedances.

Surface water results

Reported PFAS concentrations for on-Base and off-Base surface water locations were consistent with the historical results and were below the NHMRC (2019) PFAS Recreational Water guideline (2 µg/L and 10 µg/L) for both 2022 monitoring rounds.

- All concentrations for on-Base locations were reported below the PFAS NEMP 2.0 (HEPA, 2020) Freshwater 95% Species Protection guideline value for PFOS except for SW019, a stormwater drain off Tech Road, and SW011, located in the western corner of Karna Park Wetlands southwest of the Base boundary, which is consistent with historical data.

[3] A quaternary aquifer is an underground layer of porous and permeable rock, gravel, sand or silt, which can contain or transmit groundwater that lies within the youngest geology below the site.

•

CSM and risk profile

The conceptual site model (CSM) was reviewed in light of the new monitoring data collected between January 2022 and July 2022, and no changes were identified to sources, pathways or receptors at the Base or within the Management Area to change the risk profile, as described in the 2019 PMAP.

The 2022 data suggests that the various increasing and decreasing trends noted in on and off-Base groundwater wells are not considered to indicate a change in risk profile. The new exceedance of drinking water guidelines in the on-Base monitoring well does not constitute a change in the risk profile for on-Base human health receptors, as the well is not located within the vicinity of any drinking water sources. The new exceedance of drinking water guidelines in the off-Base monitoring well also does not constitute a change in the risk profile for receptors in the vicinity of this well due to the establishment of a Stage 1 Groundwater Prohibition Area (GPA) as of February 2022, preventing extraction of groundwater in the Q1 to Q4 aquifers.

Conclusions

The monitoring conducted over the period covered within this report is considered to have met the objectives of the SAQP and the overall OMP. The monitoring network is considered appropriate and sufficient for the program objectives. The PFAS plume remains stable with few wells on-site reporting increasing trends.

Abbreviations and acronyms

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

Abbreviation	Term
SAQP	Sampling and Analysis Quality Plan
SW	surface water
T1	first Tertiary aquifer
WTP	Water treatment plant

List of units

Unit	Definition
AHD	Australian Height Datum
cm	centimetre
°C	degrees Celsius
g	grams
L	litre
m	metre
mAHD	metres Australian Height Datum
mbtoc	metres below top of casing
mg	milligrams
µg	micrograms
µS	microsiemens
cm	centimetre
mV	millivolts

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence ('Defence') to implement the Ongoing Monitoring Plan (OMP) for monitoring of per- and poly-fluoroalkyl substances (PFAS) at RAAF Base Edinburgh (the 'Base'), South Australia (SA).

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

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

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

1.1 Purpose and objectives

The objective of the monitoring program set out in the OMP (Defence, 2019) is to continue to assess changes in the nature and extent of PFAS within the environment, where Defence's historical use of legacy Aqueous Film Forming Foam (AFFF) has led to an identified potentially elevated risk to a receptor, or potential future risk to a receptor.

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

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

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

1.2 Scope

The scope of works for this interpretive report included assessing changes to the nature and extent of PFAS during the monitoring period (September 2021 to July 2022) in addition to interim monitoring data and historical OMP investigations and evaluating if these changes have implications for the understanding of the Conceptual Site Model (CSM) and the risk profile with respect to PFAS impacts at the Base. This assessment included the evaluation of data reported in the following factual reports, as well as other data provided by Defence and ancillary external data sources:

- RAAF Base Edinburgh – Sampling Event Factual Report – January and February 2022 (AECOM, 2022b).
- RAAF Base Edinburgh – Sampling Event Factual Report – July 2022 (AECOM, 2022c).
- Ancillary external data sources including meteorological data (see **Section 6.4**).

2.0 Site setting

2.1 Site description

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

Table 1 Site Setting and CSM Summary

Element	Description
Site ID	RAAF Base Edinburgh, property number 0939
Location	RAAF Base Edinburgh is located approximately 25 kilometres north of the Adelaide central business district between Salisbury North to the south, Elizabeth to the east, Edinburgh North and Eyre to the north, and Waterloo Corner to the west (**Figure F1** in **Appendix A)**. The Base encompasses an area of approximately 1,340 hectares bounded by residential areas to the south, commercial and residential areas to the east, residential and agricultural land to the north, and primarily agricultural land to the west. The Base is an operational military airfield. The Base has administrative, accommodation, recreational and operational support facilities as well as technical workshops, aircraft hardstands and aircraft pavements.
Regional climate	The annual climate of the surrounding Adelaide region is characterised by a dry and hot summer season between December and March and a mild winter season with moderate rainfall between May and August. Adelaide has an annual average rainfall of 526.7 mm (BOM, 2022).
Topography, geology and hydrogeology	The Base is flat and low-lying with some minor undulations. Elevations range between 11 and 29 metres Australian Height Datum (mAHD). The hydrogeologic units underlying the Base include the following lithologies: • Quaternary units (Q1, Q2, and Q3): The Pooraka Formation, a sandy clay and clayey to sandy silt with interbeds and layers of clay, sand, gravel, pebbles, cobbles and boulders that extends to a depth of approximately 6 m to 8 m, overlying the Hindmarsh Clay, a fluviatile and alluvial clay and silt unit with interbedded sands and gravels in outwash areas that extends to a maximum depth of approximately 100 m. Comprised of up to three semi-confined aquifers. • Quaternary unit (Q4): Carisbrooke Sand; Fluviatile, alluvial fine sands and silts with some clay and thin gravel beds in outwash areas and is the deepest Quaternary unit. This unit is a confined aquifer with possible hydraulic connection with the first Tertiary unit (T1) aquifer in some areas. • Tertiary units (T1): Hallett Cove Sandstone, Dry Creek Sand and Croydon Facies – limestone, calcareous sandstone and sand of marine deposition and usually abundantly fossiliferous; and the underlying Port Willunga Formation (upper) a fossiliferous sandy limestone with sands and sandstones. This unit is a confined aquifer. The Quaternary aquifers are complex due to the interconnection of individual lenses and layers of gravels, sands, clays, and silts. This presents a complex 3-dimensional groundwater flow regime where the mechanisms of contaminant transport are likely to be defined by preferential flow paths through more permeable materials and retardation of contaminant migration through less permeable materials (JBS&G, 2018).

Element	Description
Groundwater depth and flow	Groundwater generally flows from the northeast to the southwest and conforms with the major surface water drainage network on the Base.
Surface water	The surface water drainage system on RAAF Base Edinburgh includes lined and unlined stormwater drainage channels. The major drainage network includes the major unlined open drain, the Helps Road Drain.
Current and previous land use	The Base was compulsorily acquired in 1940 to build a munitions factory; prior to this the land was used for agricultural purposes. The construction of the RAAF Base commenced in 1953. The Base is bounded in all directions by Heaslip Road, Womma Road, West Avenue and Edinburgh Road. Current surrounding land uses detailed in the PMAP are summarised as: • North: Childcare facility located within 200 m of the Base. Industrial, agricultural and recreational land uses. Low-density residential to the northeast. • East: Industrial, residential and commercial properties including Defence Science and Technology Group (DSTG) to the southeast. • South: Agricultural (primary production), industrial, commercial and residential properties with some designated open spaces (e.g. Kaurna Park Wetland) • West: Agricultural (Primary Production) and industrial (Urban Employment) land uses are located to the west of the Base, with some low-density residential land use.

2.2 Management area

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

2.3 Groundwater Prohibition Area

A Stage 1 Groundwater Prohibition Area (GPA) was established on 3 February 2022, which includes RAAF Base Edinburgh and areas south to Port Wakefield Road. A second stage was added to the GPA extending the area from Port Wakefield Road to Barker Inlet on 23 February 2023. The GPA is shown in **Figure A1.2** (**Appendix A**) and encompasses the quaternary aquifer system (Q1-Q4). The purpose of the GPA is to protect current and future landowners from accessing contaminated groundwater via private property bores.

2.4 Source areas

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

- P1: AFFF wastewater retention tank and AFFF wastewater evaporation pond. PFAS presence in sediment, soil, concrete and groundwater.
- P2: The Base's bulk fuel storage facility including an automated AFFF deluge system. PFAS presence in soil and groundwater.
- P3A and P3B: AFFF wastewater retention infrastructure, the Chesterfield Sumps, at the eastern and western end of the aircraft hangars. PFAS presence in groundwater.
- P4: Former fire training area and sub-surface waste dump in the northern portion of the airside operations area. PFAS presence in soil and groundwater.

- P8: Sub-surface waste dump at the central portion of the western Base boundary. PFAS presence in groundwater.
- P9: Current fire training area, including smokeroom training building (Building 618) located in the southern portion of the airside operations area, near the Ordnance Unloading Area. PFAS presence in soil, concrete and groundwater.
- P10: Former sewage treatment plant (STP) and fire training area in the southern portion of the airside operations area and adjacent to the Helps Road Drain discharge point. PFAS presence in soil and groundwater.
- P11: Current fire station and former AFFF concentrate storage area. PFAS presence in soil, concrete and groundwater.
- P15A and P15B: Former fire training area in the Ordnance Unloading Area. PFAS presence in soil and groundwater.
- P16: Former fire training area around the Engine Run-up facility. PFAS presence in soil and groundwater.
- P23: Location of a historical train and semi-trailer crash at the corner of the western and southwestern boundaries. PFAS presence in groundwater.
- P27: Suspected former fire training area. PFAS presence in soil and groundwater.

3.0 Sampling and analytical scope and methodology

3.1 Sampling and analysis methodology

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

- biannual on-Base and off-Base groundwater sampling, undertaken during the dry season (January/February 2022) and during the wet season (July 2022)
- surface water sampling (on-Base and off-Base), undertaken during the dry season (January/February 2022) and during the wet season (July 2022).

Details of the completed scope have been provided in **Section 3.2**.

3.2 Summary of OMP works in 2022

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

Monitoring works were undertaken between January and July 2022 and comprised of:

- Gauging and sampling of groundwater at 104 monitoring wells in January/February 2022 and 105 in July 2022, noting three wells in each monitoring round were sampled directly via a tap and were not gauged.
- Gauging of 18 additional monitoring wells, which were not sampled, in January/February and July 2022.
- Sampling of surface water at 20 locations in July 2022.
- Analysis of all samples for the extended PFAS suite.

3.3 Deviations from the SAQP

Deviations from the SAQP in field monitoring events completed between January and June 2022 are summarised below in **Table 2** and presented in full in the factual reports (AECOM, 2022b; AECOM, 2022c).

Table 2 Summary of deviations from the SAQP

Monitoring rounds	Media	Deviation	Impact on data set and interpretations in the OMP
January and February 2022	Groundwater	All monitoring wells and bores were accessible and able to be sampled except for the following: • One groundwater sampling location, MW4076, was not accessed during the monitoring round as the location was submerged in pooled water. It should be noted that the gatic appears in good repair and there is no indication that surface water is infiltrating the well at this location.	The absence of data from MW4076 at the downgradient boundary of the Management Area does limit the assessment of groundwater conditions in this area and creates a data gap in the assessment of PFAS in groundwater. Further monitoring in future OMP events should be considered to collect groundwater data in this area.
	Surface water	No surface water locations were sampled due to no rainfall occurring during the January/February sampling event and insufficient rainfall was recorded in the weeks	

Monitoring rounds	Media	Deviation	Impact on data set and interpretations in the OMP
		following to provide adequate volume to sample.	The absence of data from these surface water locations does limit the assessment of surface water pathways for PFAS migrating from the Base and creates a data gap in the assessment of PFAS in surface water.
July 2022	Surface water	All surface water sampling locations were accessible or able to be sampled with the exception of the following: • SW037 had insufficient water for sampling.	
	Quality Assurance/ Quality Control (QA/QC) samples	One trip blank per cooler was not analysed as per the SAQP. Field blanks were collected but not analysed. It is noted that field blanks were not included in the SAQP utilised during the sampling event, however field blanks are required in the PFAS NEMP 2.0.	The quality of the analytical data was assessed as acceptable, as the available rinsate blank samples, and numerous groundwater and surface water samples collected over the monitoring event with results below the LOR, can be used to assess that cross contamination has not occurred.
	Hydrasleeve™ deployment depths	As per the SAQP, Hydrasleeves™ are to be deployed at depths within the screened interval of the wells, with the weight sitting one metre above the bottom of the well. For the following wells the deployment depth was less that one metre: • MW2499 (0.86 m) • MW4068 (0.78 m)	Samples were collected within the screened interval therefore no material impact on the results is anticipated.

In January and February 2022, despite insufficient rainfall occurring for the sampling of surface water, MW4076 was submerged in pooled water and could not be accessed. The pooling of water was also observed in the 2021 sampling events and inferred to be due to a failure of stormwater drainage which caused water to build up and not drain away in this location from 2021 rainfall. This location was accessible in July 2022.

3.4 Changes to the monitoring network

Observations detailed in the factual reports (AECOM, 2022b; AECOM, 2022c) indicate that the monitoring well network was in good condition and no changes to the network were made in 2022.

4.0 Quality assurance and quality control

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

- RAAF Base Edinburgh – Sampling Event Factual Report – January and February 2022 (AECOM, 2022b).
- RAAF Base Edinburgh – Sampling Event Factual Report – July 2022 (AECOM, 2022c).

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

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

5.0 Assessment criteria

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

The adopted PFAS screening criteria to assess the data collected as part of the monitoring are presented in **Table 3**.

These screening criteria included values for the following analytes:

- Perfluorooctane sulfonate (PFOS)
- Perfluorohexane sulfonate (PFHxS)
- Perfluorooctanoic acid (PFOA).

Table 3 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water–- groundwater	PFOS+PFHxS	0.07 micrograms per litre (µg/L)	The values are from the PFAS NEMP 2.0 (HEPA, 2020). Where the guideline value refers to the sum of PFOS+PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). *All groundwater results have been compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use	PFOS+PFHxS	2 µg/L	The values presented in the PFAS NEMP 2.0 (HEPA, 2020) are from the Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water (NHMRC, 2019) guidance on the assessment of PFAS in recreational water released in August 2019. *All surface water results have been compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020). The 95% level of protection has been applied for slightly to moderately disturbed ecosystems. *All surface water results have been compared to these criteria.*
	PFOA	220 µg/L	

6.0 Contextual and ancillary information

Events occurring within the Management Area and other factors with the potential to have affected monitoring results over the period of reporting are discussed below.

6.1 Additional analytical data

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

- Detailed Site Investigation (DSI) (PFAS) (JBS&G, 2019a)

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

6.2 Remediation projects

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

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

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

Additional works for groundwater remediation included the installation of additional extraction wells and the extraction and treatment of groundwater targeting source areas P3B, P11 and P27, which commenced in September 2022. As this occurred after the 2022 OMP monitoring period, these works are not considered to impact findings presented in this report.

Soil remediation works have included the excavation and treatment of the upper 0.5 m of soil from defined extents within source areas P4, P9, P10, P11, P15A/B and P16. Remedial works under the RAP for soil include soil washing and immobilising PFAS in soils with the addition of granulated activated carbon (GAC) prior to reinstatement in excavations with a Geosynthetic Clay Liner (GCL) base liner and transport of highly contaminated materials off-Base for thermal destruction. Upon the decommissioning of the soil treatment plant in May 2022, soil remediation works only include the stabilisation of PFAS in soils with GAC. Soil remediation works are currently ongoing and potential future works may be undertaken in 2023.

Remediation works undertaken during the 2022 OMP monitoring period were within source areas P9, P10, P15A/B and P16. As these works only targeted the top 0.5 m of soil it is unlikely that these activities have impacted the 2022 data. These activities have the potential to impact the data from future monitoring rounds as removing the contaminated soil may halt or slow any mobilisation of PFAS from soil to groundwater in remediated source areas.

Excavation works in P9 associated with soil remediation works were observed by AECOM field staff to be flooded on 6 June 2022 after a rain event. The extent of the flooding is shown in **Figure 1**. There is the potential that these excavation works and flooding have affected the wells located in P9 (MW2148 (Q1), MW2158 (Q2), MW2284 (Q3) and MW2272 (Q4)), as discussed in **8.2**.

Figure 1 P9 excavation 6 June 2022

Monitoring locations for the OMP are located within these targeted source/remediation areas and scheduled sampling for groundwater and surface water, as part of the OMP, during and/or after completion of the remediation works will inform potential changes to the risk profile and conceptual site model (CSM).

6.3 Infrastructure projects

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

6.4 Climate

The 2022 monitoring period for the PFAS OMP monitoring events (AECOM, 2022b; AECOM, 2022c), was characterised by dry conditions in summer and wet conditions in the winter.

During the 6-month reporting period, the greater Adelaide region and Edinburgh experienced a number of significant rainfall events, particularly in January, May and June 2022. It is also noted that the greater Adelaide region and Edinburgh experienced an unusually wet spring in 2021 leading up to the January/February 2022 sampling event, with monthly rainfalls in October and November greatly exceeding historical averages for those months by approximately 20 mm.

Despite greater than average rainfall recorded in January 2022, no rainfall occurred during the January/February sampling event and insufficient rainfall was recorded in the weeks following for adequate volume to collect surface water samples. Total monthly rainfall in Edinburgh from August 2021 to July 2022 is compared to the historical mean for corresponding months (using data from 1972 to 2022) in **Figure 2**.

Figure 2 2021/2022 Rainfall data and mean monthly rainfall for RAAF Base Edinburgh (Station 023083) (BOM, 2022)

Mean monthly maximum temperatures for the current monitoring period were consistent with the long-term mean, as seen in **Figure 3** (BOM, 2022).

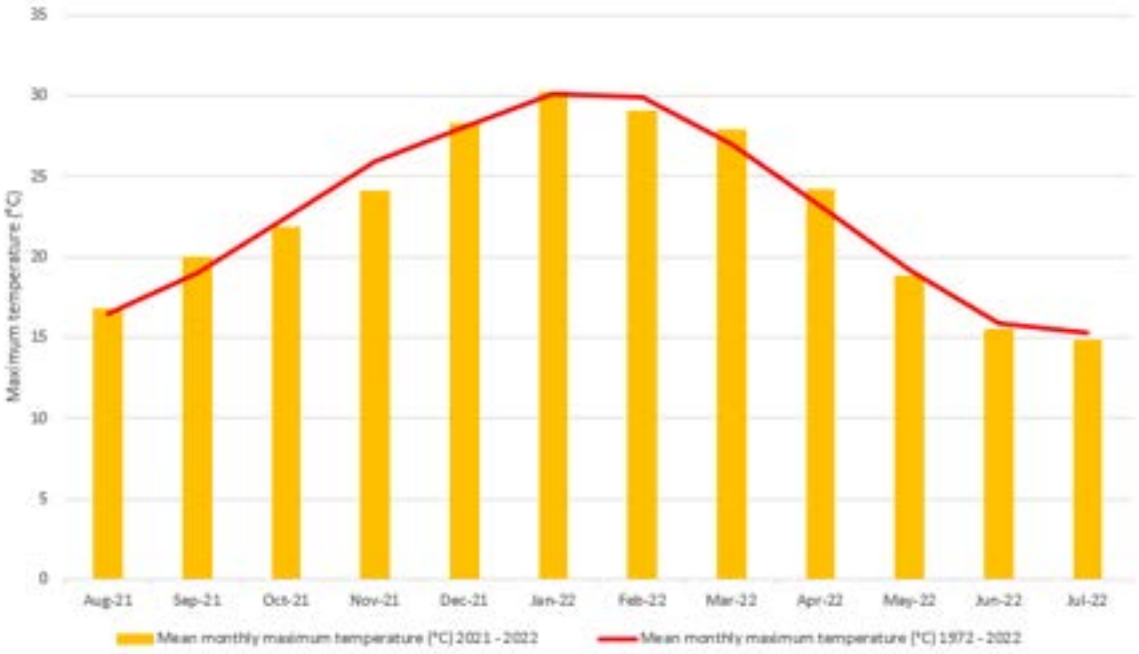


Figure 3 Monthly mean maximum temperature 2021-2022 and long-term mean (Station 023083) (BOM, 2022)

Climatic conditions over a period of years may result in changes to the hydrogeological system and manifest in a number of outcomes relevant to the monitoring of PFAS at RAAF Edinburgh and surrounds. The majority of wells in the monitoring well network have displayed increased elevations in the January/February and July 2022 monitoring rounds compared to the respective monitoring rounds in 2021, which is likely a result of the above average rainfall recorded. Groundwater elevations are discussed further in Section **7.1.2**. The increased volume of rainfall results in an increased volume of surface waters being present in the broader catchment, which has the potential to impact the Base drainage network and surface water results in the following ways:

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

7.0 Monitoring data summary

7.1 Groundwater

7.1.1 Groundwater field observations

During the January/February and July 2022 monitoring event, field staff did not record any notable observations.

Additionally, during the January/February monitoring event only, MW4076 was not accessible due to being submerged in pooled water.

7.1.2 Groundwater elevations

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

Groundwater elevation contours generated from gauging results collected during the OMP monitoring of the Q1 to Q4 monitoring wells are presented in **Figure A5.1** to **Figure A5.4** (**Appendix A**) for January/February and **Figure A5.5** to **Figure A5.8** (**Appendix A**) for July 2022.

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

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

7.1.3 Groundwater flow directions

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

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

7.1.4 Groundwater physiochemical parameters

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

Parameters for the 2022 monitoring rounds are presented in each of the respective factual reports in **Appendix C**. The field parameter readings from the 2022 sampling events are summarised in **Table 4** below.

Table 4 Groundwater field parameter ranges (min – max)

Aquifer	Parameter	January/February 2022	July 2022
Q1	DO (milligrams per litre [mg/L])	1.02 (MW2150) to 7.91 (MW4072)	0.63 (MW2394) to 6.16 (MW2149)
	EC (microsiemens per centimetre [µS/cm])	932 (MW2112) to 28,683 (MW4023)	664 (MW2131) to 21,877 (MW4023)
	pH	6.39 (MW2137) to 9.61 (MW2148)	6.71 (MW4218) to 8.46 (MW2148)

Aquifer	Parameter	January/February 2022	July 2022
	ORP corrected (millivolts [mV])	-47.8 (MW2394) to 410.8 (MW2137)	-61.0 (MW2394) to 306.7 (MW2184)
Q2	DO (mg/L)	0.37 (MW2202) to 5.63 (MW4024)	0.61 (MW2209) to 3.68 (MW4223)
	EC (µS/cm)	1,055 (MW4048) to 29,493 (MW2173)	792 (MW4048) to 23,296 (MW2173)
	pH	6.75 (MW2185) to 10.08 (MW2200)	6.98 (MW2176) to 12.16 (MW2210)
	ORP corrected (mV)	-4.7 (MW2157) to 381.2 (MW2185)	-80.8 (MW2209) to 306.2 (MW2185)
Q3	DO (mg/L)	0.1 (MW2270) to 5.83 (MW4074)	1.24 (MW2281) to 3.37 (MW4073)
	EC (µS/cm)	2,541 (MW4074) to 11,306 (MW2281)	1071 (MW4069) to 11,158 (MW4073)
	pH	6.72 (MW2281) to 11.91 (MW2272)	7.00 (MW2281) to 12.95 (MW2272)
	ORP corrected (mV)	-19.99 (MW4071) to 370.1 (MW2281)	-5.1 (MW4071) to 351.2 (MW2281)
Q4	DO (mg/L)	1.26 (MW2285) to 5.51 (MW4079)	0.87 (MW2285) to 3.89 (MW4079)
	EC (µS/cm)	3089.2 (MW2286) to 18,264 (MW4078)	1,823 (MW4075) to 12,431 (MW4078)
	pH	6.10 (MW4078) to 12.22 (MW4079)	7.31 (MW2285) to 12.43 (MW4079)
	ORP corrected (mV)	-34.3 (MW2286) to 385.3 (MW4078)	1.7 (MW2284) to 306.0 (MW4078)
T1	DO (mg/L)	1.02 (MW4222) to 3.45 (MW4221)	1.2 (MW4220) to 3.59 (MW4221)
	EC (µS/cm)	1,339 (MW4222) to 2,005 (MW4221)	1,052 (MW4222) to 1,562 (MW4221)
	pH	7.32 (MW4221) to 8.72 (MW4220)	7.66 (MW4222) to 7.76 (MW4221)
	ORP corrected (mV)	119.9 (MW4220) to 258.0 (MW4221)	51.87 (MW4220) to 154.6 (MW4221)

MW4068 has recorded pH values in the field between 7.75 (January 2022) and 12.17 (July 2020), with values consistently greater than 11. This is indicative of grout contamination, i.e. failure of the well annulus seal.

7.1.5 Groundwater analytical results

Groundwater analytical results are presented in **Table T2** (**Appendix D**), and monitoring activities are summarised in OMP Factual Reports provided in **Appendix C**. Monitoring locations are presented in **Figure A2** (**Appendix A**) and concentration maps are presented in **Figure A4.1** to **A4.16** (**Appendix A**).

A summary of groundwater analytical results, including historical OMP results, is provided in **Table 5** below.

Table 5 Summary of PFAS in groundwater

Sampling event	No. sample locations analysed	On/Off Base	Compound	Concentration range, µg/L (location)	No. of sample locations with concentrations >LOR
March 2020	102 (59 on Base, 43 off Base)	On Base	PFOS+PFHxS	<0.01 – 23,000 (MW2116)	58
			PFOA	<0.01 – 582 (MW2116)	41
		Off Base	PFOS+PFHxS	<0.01 – 22.5 (MW4068)	27
			PFOA	<0.01 – 0.28 (MW4003)	16
July 2020	104 (60 on Base, 44 off Base)	On Base	PFOS+PFHxS	<0.01 – 23,400 (MW2116)	55
			PFOA	<0.01 – 638 (MW2116)	43
		Off Base	PFOS+PFHxS	<0.01 – 20.2 (MW4015)	31
			PFOA	<0.01 – 0.32 (MW4015)	20
January 2021	105 (60 on Base, 45 off Base)	On Base	PFOS+PFHxS	<0.01 – 11,000 (MW2116)	53
			PFOA	<0.01 – 219 (MW2116)	40
		Off Base	PFOS+PFHxS	<0.01 – 16.2 (MW4035)	22
			PFOA	<0.01 – 0.27 (MW4035)	16
July/August 2021	102 (60 on base, 42 off Base)	On Base	PFOS+PFHxS	<0.01 – 9,560 (MW2116)	53
			PFOA	<0.01 – 192 (MW2116)	40
		Off Base	PFOS+PFHxS	<0.01 – 20.1 (MW4035)	19
			PFOA	<0.01 – 0.32 (MW4035)	15
January/ February 2022	104 (60 on Base, 44 off Base)	On Base	PFOS+PFHxS	<0.01 – 8,860 (MW2116)	53
			PFOA	<0.01 – 194 (MW2116)	40
		Off Base	PFOS+PFHxS	<0.01 – 13 (MW4035)	23
			PFOA	<0.01 – 0.22 (MW4003)	17
July 2022	105 (60 on Base, 45 off Base)	On Base	PFOS+PFHxS	<0.01 – 13,600 (MW2116)	54
			PFOA	<0.01 – 385 (MW2116)	38
		Off Base	PFOS+PFHxS	<0.01 – 18.9 (MW4035)	23
			PFOA	<0.01 – 0.32 (MW4035)	16

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

During the 2022 reporting period, no first-time detects were reported for PFOS+PFHxS and/or PFOA. The following new exceedances of drinking water guidelines were reported as presented in **Table 6**:

Table 6 Groundwater results - new exceedances of PFOS+PFHxS and/or PFOA

Location	Area	Details	Previous recorded maximum concentration
January/February 2022			
MW4074	Off-Base – Bolivar Road	PFOS+PFHxS (0.09 µg/L)	0.03 µg/L recorded in 2020
July 2022			
MW2202	Source area P16	PFOS+PFHxS (0.11 µg/L)	0.02 µg/L recorded in 2020

During the current monitoring period, the following new maximum concentrations of PFOS+PFHxS and/or PFOA were identified in OMP groundwater sampling locations as presented in **Table 7**:

Table 7 Groundwater results – new maximum concentrations of PFOS+PFHxS and/or PFOA

Location	Area	Details	Previous recorded maximum concentration
January/February 2022			
MW2114	Source area P1	PFOS+PFHxS (213 µg/L) PFOA (12.2 µg/L)	176 µg/L recorded in 2021 11.3 µg/L recorded in 2021
MW2183	On-Base – southern boundary	PFOA (0.09µg/L)	0.08 µg/L recorded in 2020
MW2185		PFOS+PFHxS (9.03 µg/L) PFOA (0.18 µg/L)	8.68 µg/L recorded in 2021 0.14 µg/L recorded in 2021
MW2270	Source area P16	PFOS+PFHxS (1.28 µg/L) PFOA (0.05 µg/L)	1.02 µg/L recorded in 2021 0.04 µg/L recorded in 2020
MW2284	Source area P9	PFOA (3.5 µg/L)	3.34 µg/L recorded in 2021
MW4074	Off-Base – Bolivar Road	PFOS+PFHxS (0.09 µg/L)	0.03 µg/L recorded in 2020
MW4075	Off-Base – Helps Road Drain	PFOS+PFHxS (0.45 µg/L) PFOA (0.02 µg/L)	0.21 µg/L recorded in 2020 0.01 µg/L recorded in 2020
July 2022			
MW2148	Source area P9	PFOS+PFHxS (956 µg/L) PFOA (31.8 µg/L)	870 µg/L recorded in 2017 31 µg/L recorded in 2017
MW2158		PFOA (71.6 µg/L)	69.4 µg/L recorded in 2020
MW2272		PFOS+PFHxS (312 µg/L)	297 µg/L recorded in 2021
MW2284		PFOS+PFHxS (63.7 µg/L)	62.3 µg/L recorded in 2021
MW2499		PFOS+PFHxS (2,680 µg/L) PFOA (16.1 µg/L)	729 µg/L recorded in 2018 9.4 µg/L recorded in 2018
MW2183	On-Base – southern boundary	PFOS+PFHxS (5.98 µg/L) PFOA (0.11 µg/L)	5.13 µg/L recorded in 2021 0.09 µg/L recorded in 2022
MW2185	On-Base – southern boundary	PFOS+PFHxS (12.1 µg/L) PFOA (0.22 µg/L)	9.03 µg/L recorded in 2022 0.18 µg/L recorded in 2022
MW2202	Source area P16	PFOS+PFHxS (0.11 µg/L)	0.02 µg/L recorded in 2020
MW2270		PFOS+PFHxS (1.59 µg/L) PFOA (0.06 µg/L)	1.28 µg/L recorded in 2022 0.05 µg/L recorded in 2022
MW2209	Source area P1	PFOS+PFHxS (0.46 µg/L)	0.11 µg/L recorded in 2020

Location	Area	Details	Previous recorded maximum concentration
MW4074	Off-Base – Bolivar Road	PFOS+PFHxS (0.15 µg/L)	0.09 µg/L recorded in 2022

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

Table 8 Groundwater results – new minimum concentrations of PFOS+PFHxS and/or PFOA

Location	Area	Details	Previous recorded minimum concentration
January/February 2022			
MW2112	Source area P10	PFOS+PFHxS (2.65 µg/L)	3.32 µg/L recorded in 2021
MW2150		PFOS+PFHxS (13.4 µg/L)	14 µg/L recorded in 2021
MW2120	Source area P16	PFOS+PFHxS (34.9 µg/L)	40.2 µg/L recorded in 2021
MW2201		PFOS+PFHxS (0.68 µg/L)	0.79 µg/L recorded in2018
MW2501		PFOS+PFHxS (0.24 µg/L)	0.29 µg/L recorded in 2021
MW2129	On-Base – western boundary	PFOS+PFHxS (9.51 µg/L) PFOA (0.43 µg/L)	15.7 µg/L recorded in 2021 0.44 µg/L recorded in 2021
MW2139		PFOS+PFHxS (0.13 µg/L)	0.17 µg/L recorded in 2021
MW2145		PFOS+PFHxS (1.45 µg/L)	1.5 µg/L recorded in 2018
MW2169		PFOS+PFHxS (0.39 µg/L)	0.4 µg/L recorded in 2018
MW2172		PFOS+PFHxS (0.07µg/L)	0.08 µg/L recorded in 2021
MW2177		PFOS+PFHxS (5.99 µg/L)	7.26 µg/L recorded in 2021
MW2130	Source area P3B	PFOS+PFHxS (316 µg/L) PFOA (11.7 µg/L)	408 µg/L recorded in 2021 17.6 µg/L recorded in 2021
MW2162	Source area P4	PFOS+PFHxS (0.44 µg/L) PFOA (<0.01 µg/L)	0.79 µg/L recorded in 2021 0.02 µg/L recorded in 2021
MW2358		PFOS+PFHxS (81.6 µg/L) PFOA (1.95 µg/L)	138 µg/L recorded in 2021 3.35 µg/L recorded in 2021
MW2180	On-Base – southern boundary	PFOS+PFHxS (78.3 µg/L) PFOA (4.64 µg/L)	120 µg/L recorded in 2021 7.05 µg/L recorded in 2021
MW4013	Off-Base – southern boundary	PFOS+PFHxS (5.95 µg/L)	6.33 µg/L recorded in 2021
MW2203	Source area P11	PFOS+PFHxS (3,420 µg/L) PFOA (39.2 µg/L)	3,500 µg/L recorded in 2020 49.6 µg/L recorded in 2021
MW4001	Off-Base – Helps Road Drain	PFOS+PFHxS (1.06 µg/L)	1.23 µg/L recorded in 2021
MW4015		PFOS+PFHxS (9.68 µg/L) PFOA (0.14 µg/L)	11.2 µg/L recorded in 2021 6.50 µg/L recorded in 2021
MW4035		PFOS+PFHxS (13 µg/L)	13.3 µg/L recorded in 2020
MW4045		PFOS+PFHxS (0.35 µg/L)	0.36 µg/L recorded in 2021
MW4069	Off-Base – Helps Road Drain (Kaurna Wetlands)	PFOS+PFHxS (2.07 µg/L)	2.08 µg/L recorded in 2021
MW4057	Off-Base – Mumford Road	PFOS+PFHxS (0.15 µg/L)	0.19 µg/L recorded in 2021
MW4066		PFOS+PFHxS (0.19 µg/L)	0.22 µg/L recorded in 2021

Location	Area	Details	Previous recorded minimum concentration
MW4219	Off-Base – Waterloo Corner Rd	PFOS+PFHxS (0.36 µg/L)	0.38 µg/L recorded in 2021
July 2022			
MW2130	Source area P3B	PFOS+PFHxS (276 µg/L) PFOA (8.45 µg/L)	316 µg/L recorded in 2022 11.7 µg/L recorded in 2022
MW2184	On-Base – southern boundary	PFOS+PFHxS (0.04 µg/L)	0.28 µg/L recorded in 2021
MW2501		PFOS+PFHxS (0.21 µg/L)	0.24 µg/L recorded in 2022
MW2201	Source area P16	PFOS+PFHxS (0.48 µg/L)	0.68 µg/L recorded in 2022
MW2210	Source area P1	PFOS+PFHxS (107 µg/L)	135 µg/L recorded in 2018
MW2528		PFOS+PFHxS (47.7 µg/L)	48.8 µg/L recorded in 2020
MW4045	Off-Base – Helps Road Drain	PFOS+PFHxS (0.29 µg/L)	0.35 µg/L recorded in 2022
MW4048		PFOS+PFHxS (0.92 µg/L)	0.96 µg/L recorded in 2021
MW4057	Off-Base – Mumford Road	PFOS+PFHxS (0.10µg/L) PFOA (0.01µg/L)	0.15 µg/L recorded in 2022 0.02 µg/L recorded in 2022
MW4219	Off-Base – Waterloo Corner Rd	PFOS+PFHxS (0.34 µg/L) PFOA (<0.01 µg/L)	0.36 µg/L recorded in 2022 0.01 µg/L recorded in 2022

7.1.6 Background locations PFAS analytical results

Monitoring wells both on- and off-Base in the north and eastern portion of the Base are located to measure PFAS concentrations to represent the ambient background conditions of groundwater in the Q1 and Q2 monitoring wells. A summary of the well locations follows:

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

All concentrations were below the laboratory limit of reporting (LOR) for PFOS+PFHxS for the 2022 monitoring rounds, with the exception of MW2218 (Q2) and MW2134 (Q1) located close to the eastern boundary, as per the 2021 results. Detections of PFOS+PFHxS were reported at MW2134 (Q1) and MW2218 (Q2) in both the dry season and wet season 2022 monitoring rounds. PFOS+PFHxS concentrations reported in 2022 were within the historical range for these locations. The PFAS NEMP 2.0 (HEPA, 2020) 2020 Human Health Drinking Water guideline (0.07 µg/L) was exceeded at MW2218 in both 2022 monitoring rounds.

Concentrations of PFOA were reported below the laboratory LOR in 2022 for background locations, with the exception of results reported for both February and July 2022 at MW2218 (Q2). It is noted that these results did not exceed the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56µg/L) and were within the historical range.

Reported concentrations of PFOS+PFHxS and PFOA for the 2022 dry and wet season monitoring rounds, where reported above the laboratory LOR, were less than historical maximums..

Analytical results are summarised in **Table 9**, the location of each background well sampled is displayed in **Figure 4** and PFOS+PFHxS trends are illustrated in **Figure 5** and **Figure 6**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e., 0.005 µg/L).

Table 9 Background locations on- and off-Base PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW2134 (Q1)	PFOS+PFHxS	0.03	0.44	0.05	0.06
	PFOA	ND	ND	ND	ND
MW2135 (Q1)	PFOS+PFHxS	ND	0.03	ND	ND
	PFOA	ND	ND	ND	ND
MW2159 (Q1)	PFOS+PFHxS	ND	**0.42**	ND	ND
	PFOA	ND	ND	ND	ND
MW2216 (Q2)	PFOS+PFHxS	ND	0.03	ND	ND
	PFOA	ND	ND	ND	ND
MW2218 (Q2)	PFOS+PFHxS	ND	**5.08**	**1.42**	**3.86**
	PFOA	ND	**0.10**	0.03	**0.09**
MW2325 (Q1)	PFOS+PFHxS	ND	**0.29**	ND	ND
	PFOA	ND	ND	ND	ND
MW4218 (Q1)	PFOS+PFHxS	ND*	ND*	ND	ND
	PFOA	ND*	ND*	ND	ND

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

ND = Not detected above laboratory limits of reporting

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

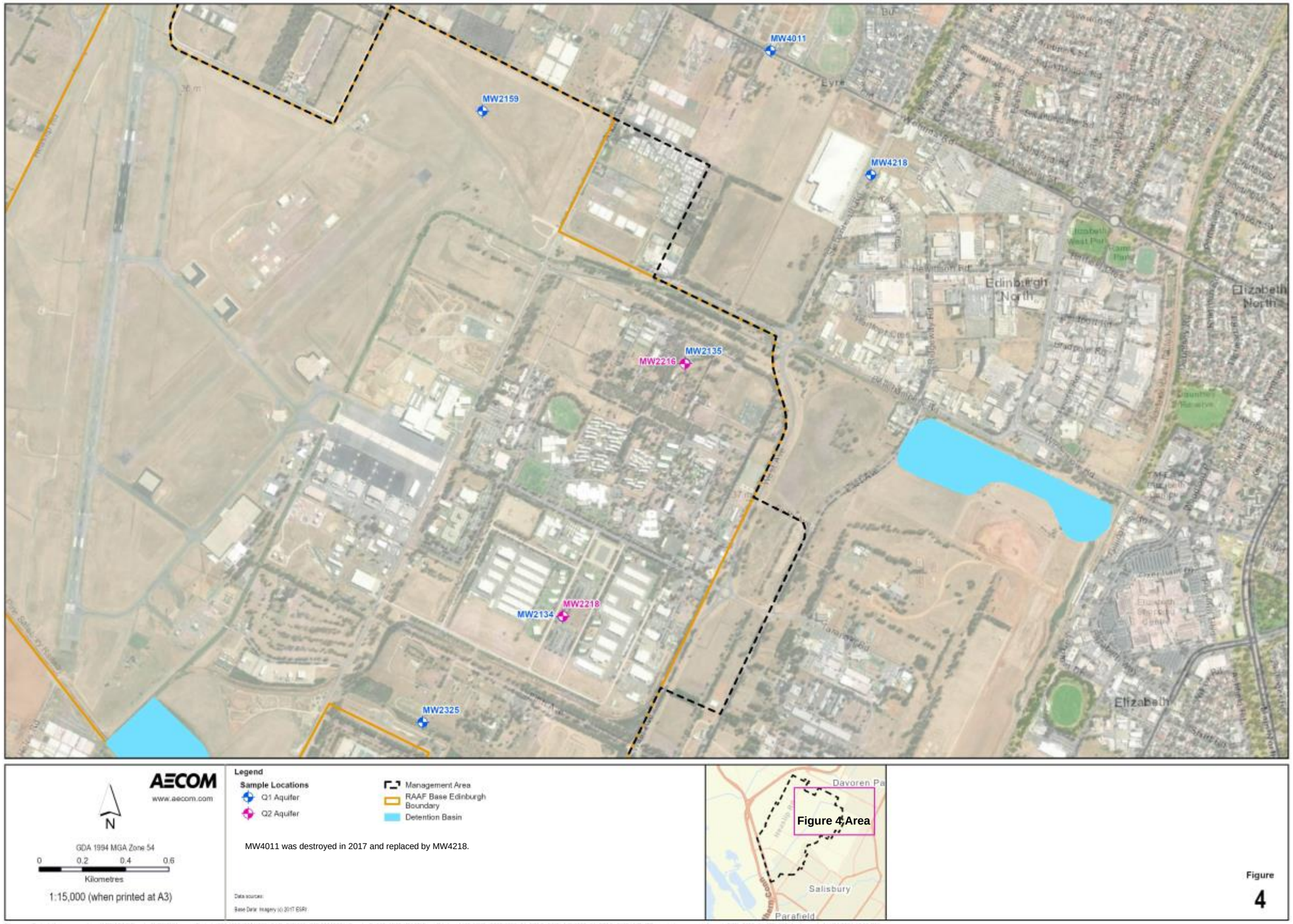


Figure 4 Background sample locations.

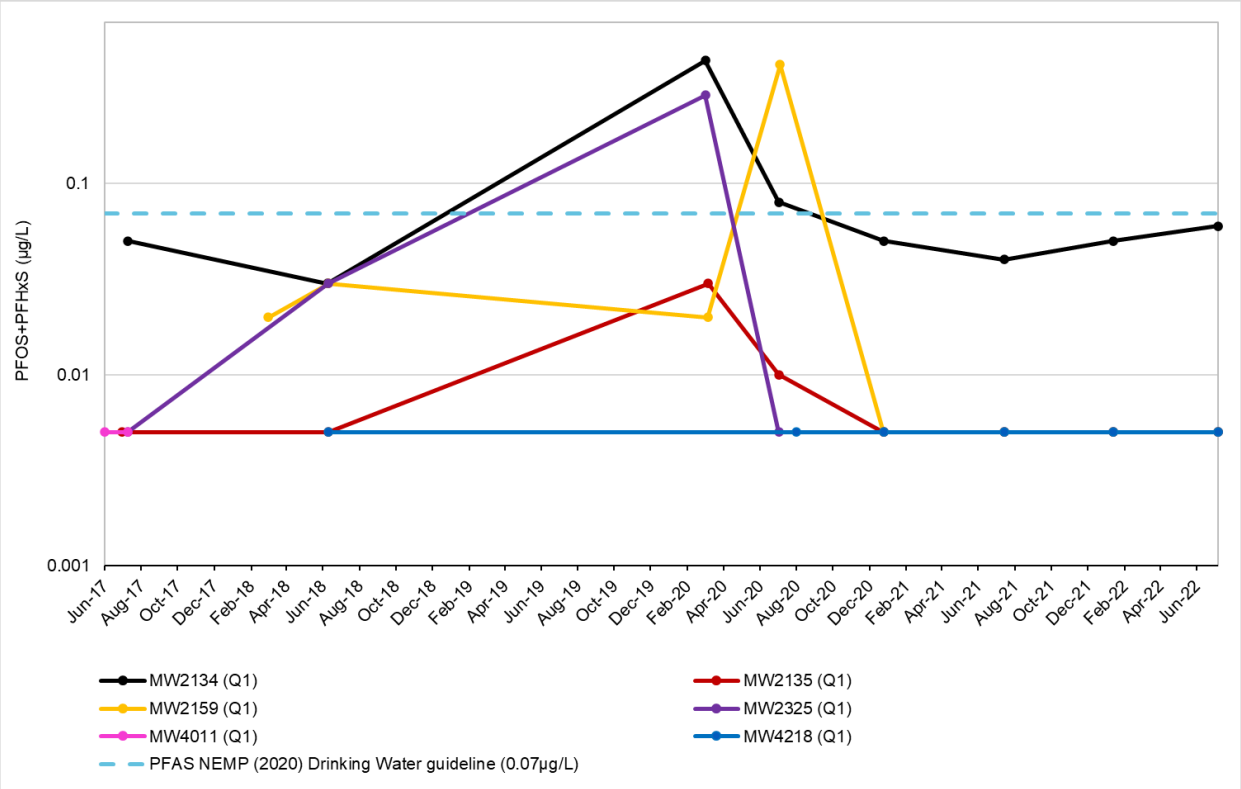


Figure 5 Q1 monitoring wells PFOS+PFHxS concentration trends at background locations. Historical results for destroyed well MW4011 (destroyed in 2017) have been incorporated into replacement location MW4218 results.

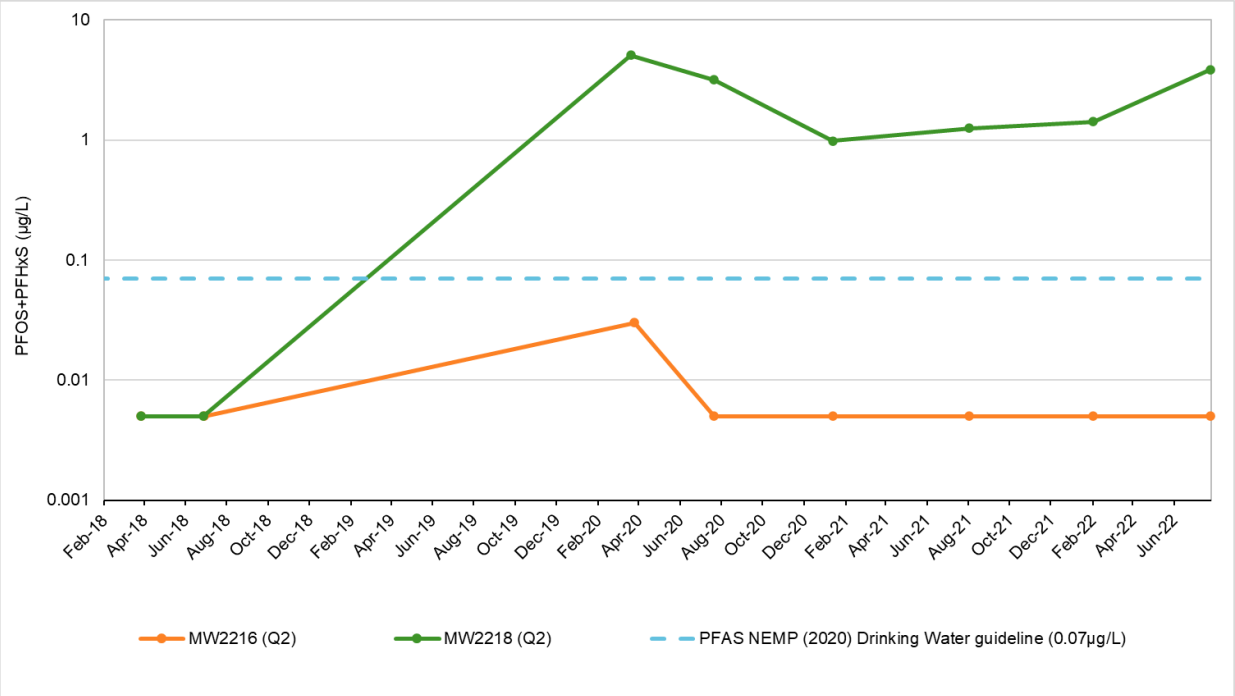


Figure 6 Q2 monitoring wells PFOS+PFHxS concentration trends at background locations

7.1.7 Source area P4 PFAS analytical results

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

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

All concentrations of PFOS+PFHxS were reported above the laboratory LOR in both monitoring rounds in 2022 and exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.07 µg/L). These results are consistent with historical exceedances of the adopted guideline.

PFOA results were reported above the laboratory LOR at all locations, with the exception of MW2394 (Q1) and MW2162 (Q2) in both the dry season and wet season 2022 monitoring rounds, and MW2411 (Q1) in wet season 2022 only. Concentrations of PFOA exceeded the PFAS NEMP 2.0 (HEPA ,2020) Human Health Drinking Water guideline (0.56µg/L) at MW2358 (Q1) in both the dry season and wet season 2022 monitoring rounds, consistent with historical exceedances of the adopted guideline.

It is noted that concentrations of PFOS+PFHxS and PFOA reported for the 2022 dry and wet season monitoring rounds were within or lower than the range of historical results.

Analytical results are summarised in **Table 10**, the locations sampled are located in **Figure 7** and PFOS+PFHxS trends are illustrated in **Figure 8** and **Figure 9**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 10 Source area P4 PFAS Summary Results (µg/L)

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW2126 (Q2)	PFOS+PFHxS	**1.23**	**2.50**	**1.27**	**1.26**
	PFOA	0.03	0.07	0.03	0.04
MW2162 (Q2)	PFOS+PFHxS	**0.79**	**2.83**	**0.44**	**0.45**
	PFOA	0.02	0.07	ND	ND
MW2358 (Q1)	PFOS+PFHxS	**138**	**660**	**81.6**	**109**
	PFOA	**3.35**	**15**	**1.95**	**2.37**
MW2394 (Q1)	PFOS+PFHxS	**0.02**	**0.37**	**0.14**	**0.10**
	PFOA	ND	ND	ND	ND
MW2411 (Q1)	PFOS+PFHxS	**0.54**	**5.29**	**1.22**	**0.60**
	PFOA	ND	0.06	0.01	ND

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

ND = Not detected above laboratory limits of reporting

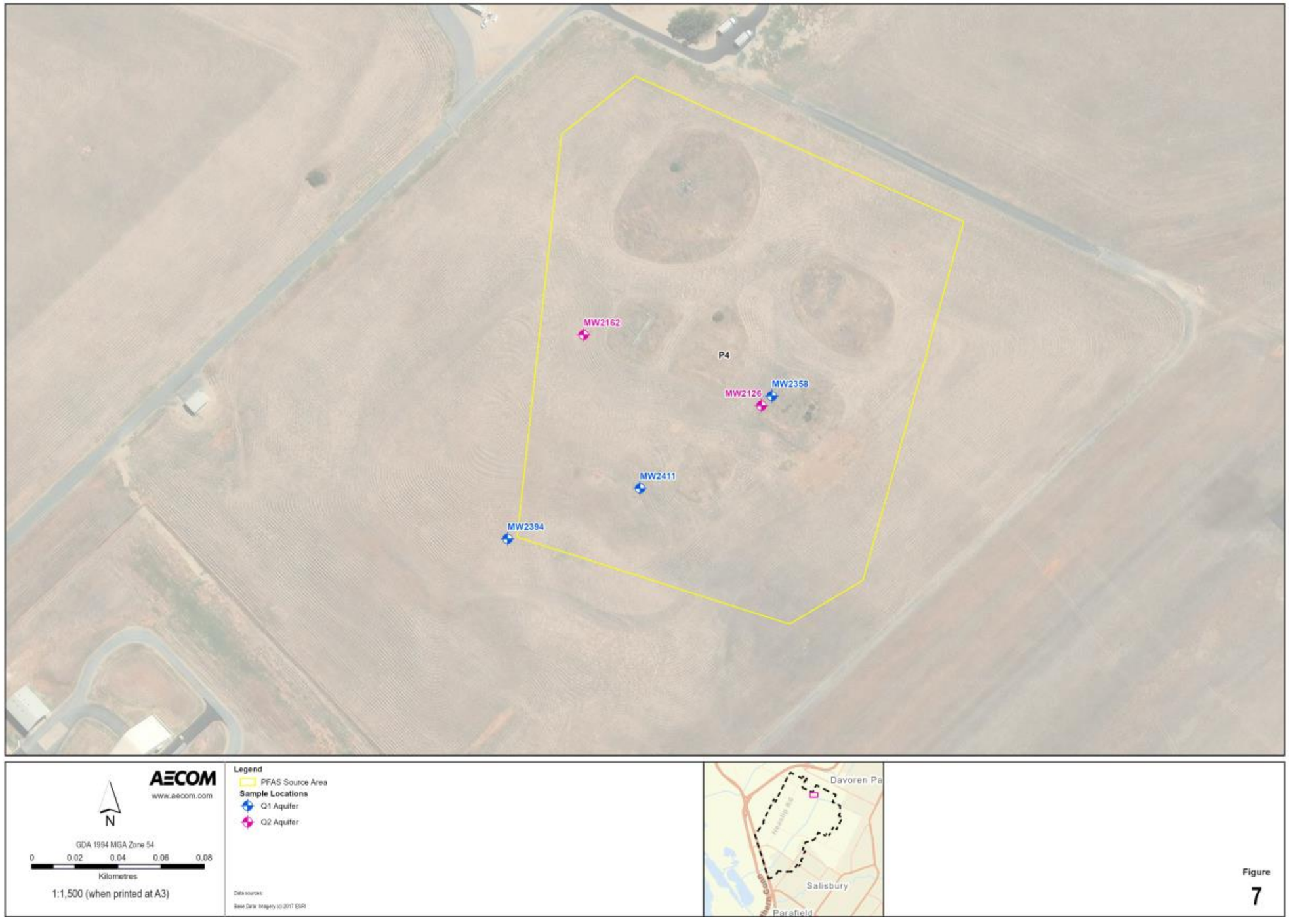


Figure 7 Source area P4 sampled locations

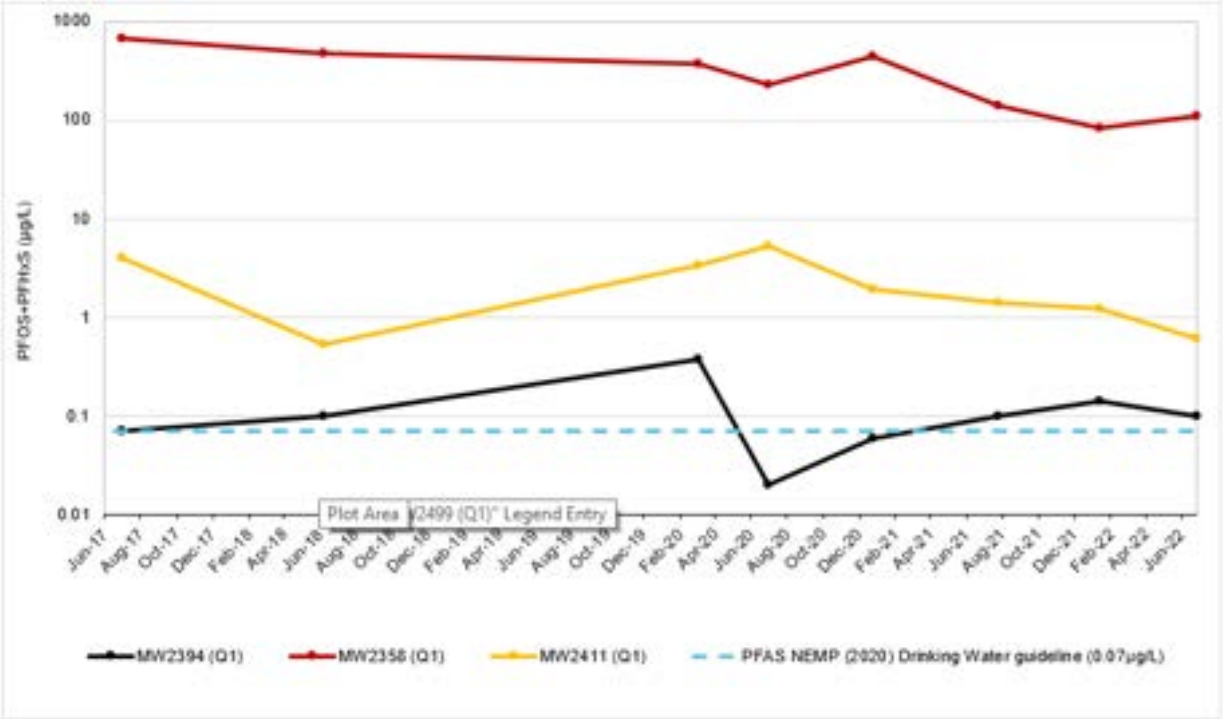


Figure 8 Q1 monitoring wells PFOS+PFHxS concentration trends at source area P4. Logarithmic scale on the y-axis for display purposes

Figure 9 Q2 monitoring wells PFOS+PFHxS concentration trends at source area P4

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

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

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

New maximum PFOS+PFHxS concentrations were reported at monitoring locations within the P9 source area MW2148 (Q1), MW2272 (Q3) and MW2284 (Q4) and P16 source area MW2270 (Q3). A new maximum PFOS+PFHxS concertation was reported at MW2499 (Q1), located adjacent the P9 source area, notably increased by an order of magnitude from data in previous years. All locations reported detections of PFOS+PFHxS above the laboratory LOR and all locations reported detections above the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.07µg/L) in dry season and wet season 2022 (with the exception of MW2202 in dry season), consistent with previous observations. MW2202 (Q2) reported a new maximum concentration and a new exceedance of the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline in wet season 2022 (0.11 µg/L).

All concentrations were above the laboratory LOR in January/February and July 2022 for PFOA, with the exception of MW2201 (Q1) and MW2202 (Q2), consistent with historical observations. New maximum concentrations of PFOA were reported at MW2284 (Q4) in January/February 2022 and MW2148 (Q1), MW2158 (Q2), MW2272 (Q3) and MW2499 (Q1) in June 2022. PFOA results exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56µg/L) in January/February and July 2022 at all locations with the exception of MW2112 (Q1), MW2150 (Q1), MW2194 (Q1), MW2201 (Q1), MW2202 (Q2) and MW2270 (Q3), consistent with historical observations.

It is noted that concentrations of PFOS+PFHxS and PFOA reported for the 2022 dry season and wet season monitoring rounds were within or below historical ranges with the exception of MW2148 (Q1), MW2158 (Q2) (PFOA only), MW2202 (Q2) (PFOS+PFHxS), MW2270 (Q3), MW2272 (Q3) (PFOS+PFHxS), MW2284 (Q4) and MW2499 (Q1) which all reported new historical maximums. MW2499 (Q1) and MW2202 (Q2) show notably higher concentrations.

Analytical results are summarised in **Table 11**, sampled locations are depicted in **Figure 10** and PFOS+PFHxS trends are illustrated in **Figure 12-13.** For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 11 Source areas P9 and P15A/B, P11, P16 and P21 PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
Source area P9					
MW2148 (Q1)	PFOS+PFHxS	**256**	**870**	**845**	**956**[1]
	PFOA	**7.18**	**31**	**18**	**31.8**[1]
MW2158 (Q2)	PFOS+PFHxS	**413**	**2,650**	**1,970**	**2,210**
	PFOA	**12.9**	**69.4**	**56.2**	**71.6**[1]
MW2272 (Q3)	PFOS+PFHxS	**2.9**	**297**	**198**	**312**[1]
	PFOA	0.15	**17.3**	**11.8**	**17.3**
	PFOS+PFHxS	0.06	**62.3**	**51.8**	**63.7**[1]

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW2284 (Q4)	PFOA	ND	**3.34**	**3.5**[1]	**3.41**
Source area P15A/B					
MW2149 (Q1)	PFOS+PFHxS	**101**	**320**	**124**	**216**
	PFOA	**2.30**	**14**	**5.73**	**8.58**
Source area P11					
MW2116 (Q1)	PFOS+PFHxS	**9,560**	**23,400**	**8,860**	**13,600**
	PFOA	**192**	**638**	**194**	**385**
MW2197 (Q1)	PFOS+PFHxS	**200**	**630**	**467**	**563**
	PFOA	**5.1**	**14.7**	**9.66**	**11.6**
MW2203 (Q1)	PFOS+PFHxS	**3,500**	**6,900**	**3,420**	**5,200**
	PFOA	**49.6**	**110**	**39.2**	**59.2**
Source area P16					
MW2120 (Q1)	PFOS+PFHxS	**40.2**	**264**	**34.9**	**51.4**
	PFOA	0.44	**3.2**	**0.68**	**0.62**
MW2200 (Q2)	PFOS+PFHxS	**98.1**	**480**	**114**	**110**
	PFOA	**3.27**	**17**	**3.49**	**2.94**
MW2270 (Q3)	PFOS+PFHxS	**0.28**	**1.22**	**1.28**	**1.59**[1]
	PFOA	ND	0.04	0.05[1]	0.06[1]
Other					
MW2112 (Q1)	PFOS+PFHxS	**3.32**	**19.4**	**2.65**	**3.29**
	PFOA	0.05	0.45	0.05	0.06
MW2150 (Q1)	PFOS+PFHxS	**14**	**25**	**13.4**	**14.9**
	PFOA	0.12	0.18	0.13	0.12
MW2188 (Q1)	PFOS+PFHxS	**112**	**238**	**221**	**233**
	PFOA	**3.23**	**8.5**	**4.66**	**5.17**
MW2189 (Q2)	PFOS+PFHxS	**51.3**	**500**	**423**	**408**
	PFOA	**1.15**	**11**	**8.22**	**8.33**
MW2194 (Q1)	PFOS+PFHxS	0.02	**5.07**	**1.8**	**1.38**
	PFOA	ND	0.11	0.04	0.03
MW2201 (Q1)	PFOS+PFHxS	**0.79**	**1.42**	**0.68**	**0.48**
	PFOA	ND	0.12	ND	ND
MW2202 (Q2)	PFOS+PFHxS	ND	0.02	ND	**0.11**[1,2]
	PFOA	ND	ND	ND	ND
MW2499 (Q1)	PFOS+PFHxS	**41.2**	**729**	**234**	**2,680**[1]
	PFOA	**0.91**	**9.4**	**2.82**	**16.1**[1]

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

ND = Not detected above laboratory limits of reporting

[1]New maximum value

[2]

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

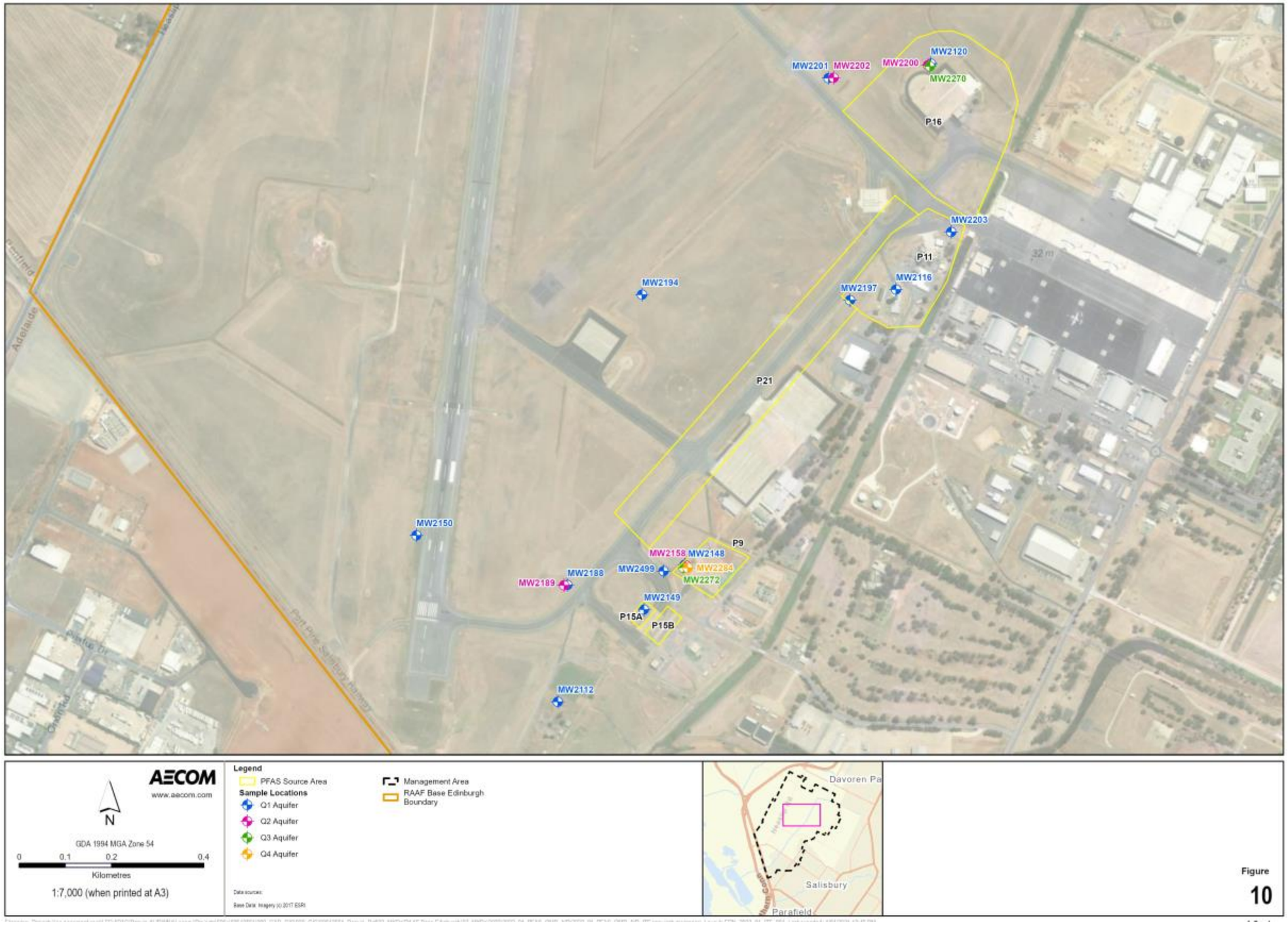


Figure 10 Sampled locations in P9, P15A/B, P11, P16 and P21

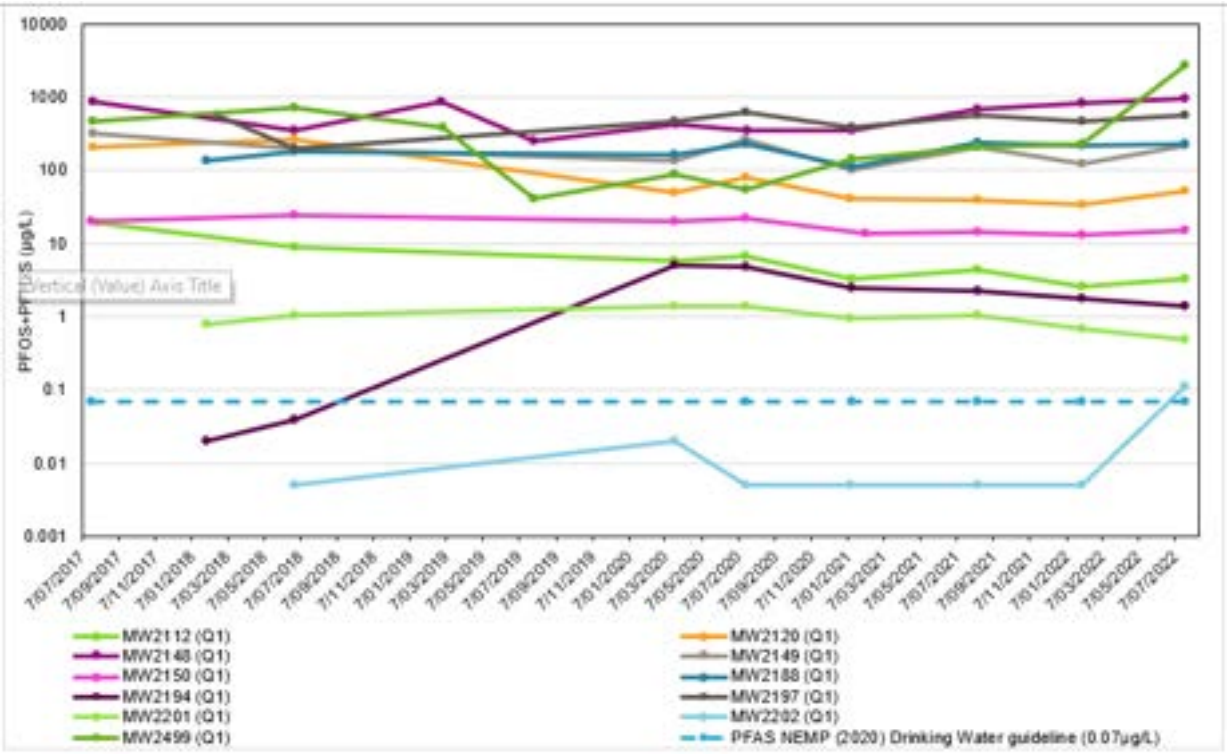


Figure 11 Q1 monitoring wells PFOS+PFHxS concentration trends at source areas P9 and P15A/B, P11, P16 and P21 (below 1000 µg/L)

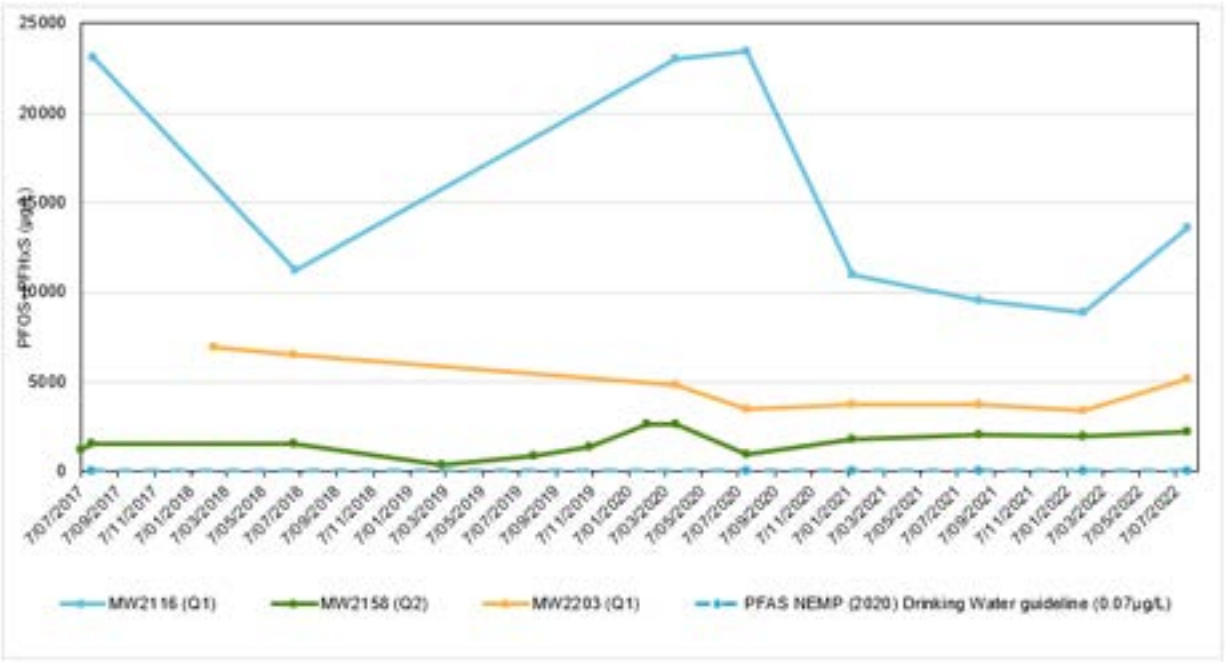


Figure 12 Q1 and Q2 monitoring wells PFOS+PFHxS concentration trends at source areas P9 and P15A/B, P11, P16 and P21 (above 1000 µg/L)*

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

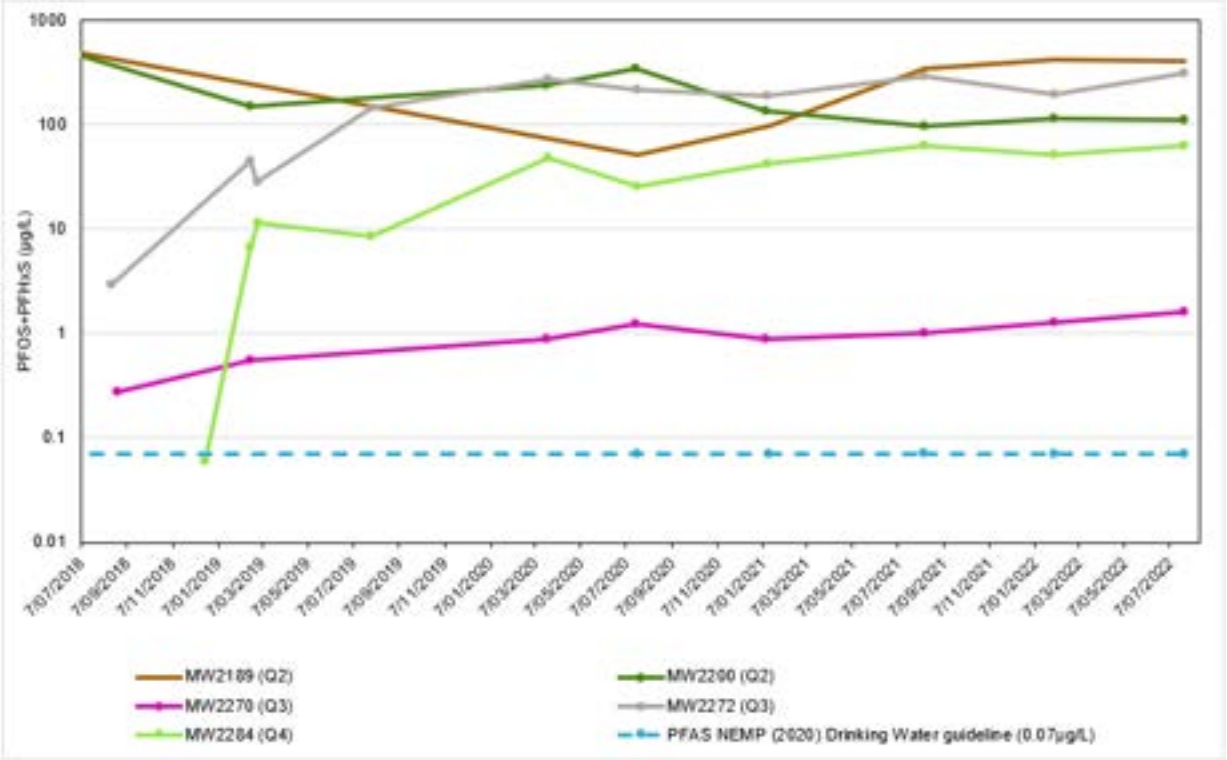


Figure 13 Q2, Q3 and Q4 monitoring wells PFOS+PFHxS concentration trends at source areas P9 and P15A/B, P11, P16 and P21 (below 1000 µg/L)*

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

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

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

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

New maximum PFOS+PFHxS concentrations were reported at MW2114 (Q1) in January/February 2022 and at MW2209 (Q2) in July 2022. All concentrations of PFOS+PFHxS were reported above the laboratory LOR in the 2022 monitoring period, and all concentrations exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.07µg/L) with the exception of MW2209 (Q2) in dry season 2022.

New maximum concentrations of PFOA were reported at MW2114 (Q1) in January/February 2022. All locations reported concentrations of PFOA above the laboratory LOR in January/February and July 2022, except for MW2209 (Q2). PFOA results exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56µg/L) at all locations, except for MW2157 (Q2) and MW2209 (Q2).

Analytical results are summarised in **Table 12**, sampled locations are depicted in **Figure 14** and PFOS+PFHxS trends are illustrated in **Figure 15-17.** For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 12 Source areas P1, P3A, P3B and P27 PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW2114 (Q1)	PFOS+PFHxS	**12.4**	**176**	**213**[1]	**213**
	PFOA	**0.68**	**11.3**	**12.2**[1]	**12.2**
MW2130 (Q1)	PFOS+PFHxS	**408**	**1,160**	**316**	**276**
	PFOA	**17.6**	**44.1**	**11.7**	**8.45**
MW2131 (Q1)	PFOS+PFHxS	**118**	**594**	**135**	**217**
	PFOA	**4.5**	**11.7**	**7.26**	**6.59**
MW2157 (Q2)	PFOS+PFHxS	**12.3**	**24.5**	**16.5**	**15.8**
	PFOA	0.27	0.38	0.34	0.35
MW2193 (Q1)	PFOS+PFHxS	**60**	**105**	**69.8**	**87.9**
	PFOA	**1.39**	**2.38**	**1.49**	**1.54**
MW2209 (Q2)	PFOS+PFHxS	0.03	**0.11**	0.05	**0.46**[1]
	PFOA	ND	ND	ND	ND
MW2210 (Q2)	PFOS+PFHxS	**135**	**250**	**221**	**107**
	PFOA	**2.7**	**5.91**	**5.15**	**3.00**
MW2490 (Q1)	PFOS+PFHxS	**2,900**	**9,460**	**3,340**	**3,240**
	PFOA	**62**	**220**	**77.6**	**77.0**
MW2528 (Q1)	PFOS+PFHxS	**49.8**	**78**	**52.4**	**47.7**
	PFOA	**1.65**	**2.52**	**1.85**	**1.66**

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

ND = Not detected above laboratory limits of reporting

[1] New maximum value

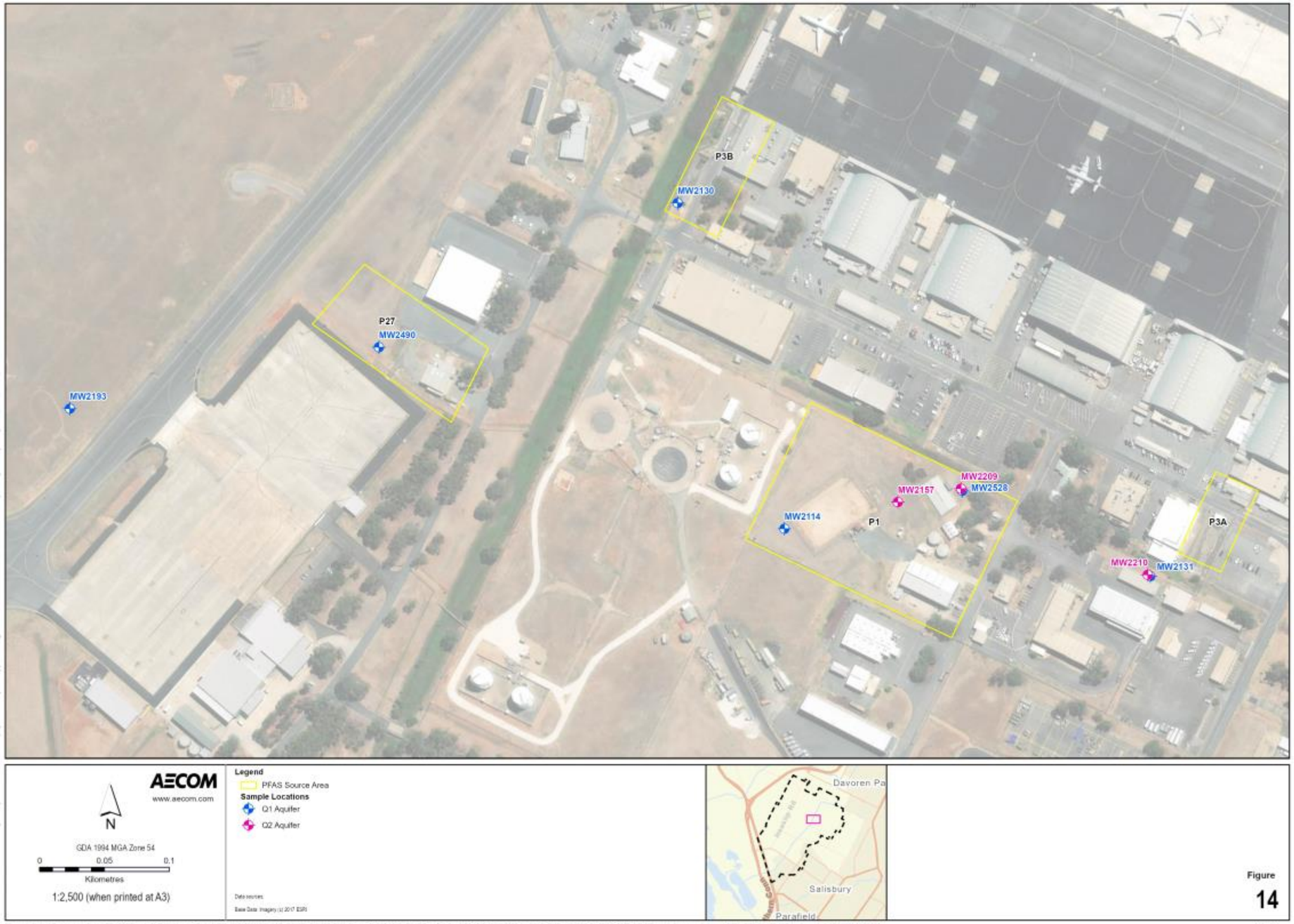


Figure 14 P1, P3A, P3B and P27 sampled locations

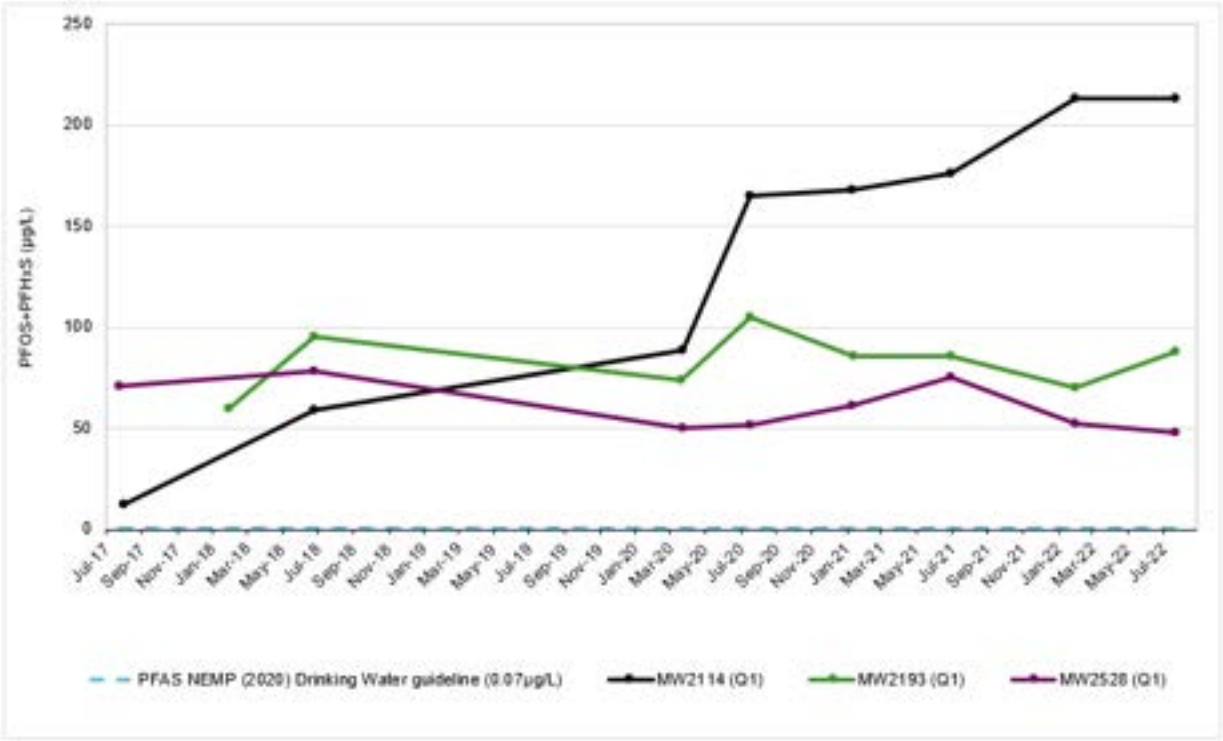


Figure 15 Q1 monitoring wells PFOS+PFHxS concentration trends at source areas P1, P3A, P3B and P27 (below 200 µg/L) *

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

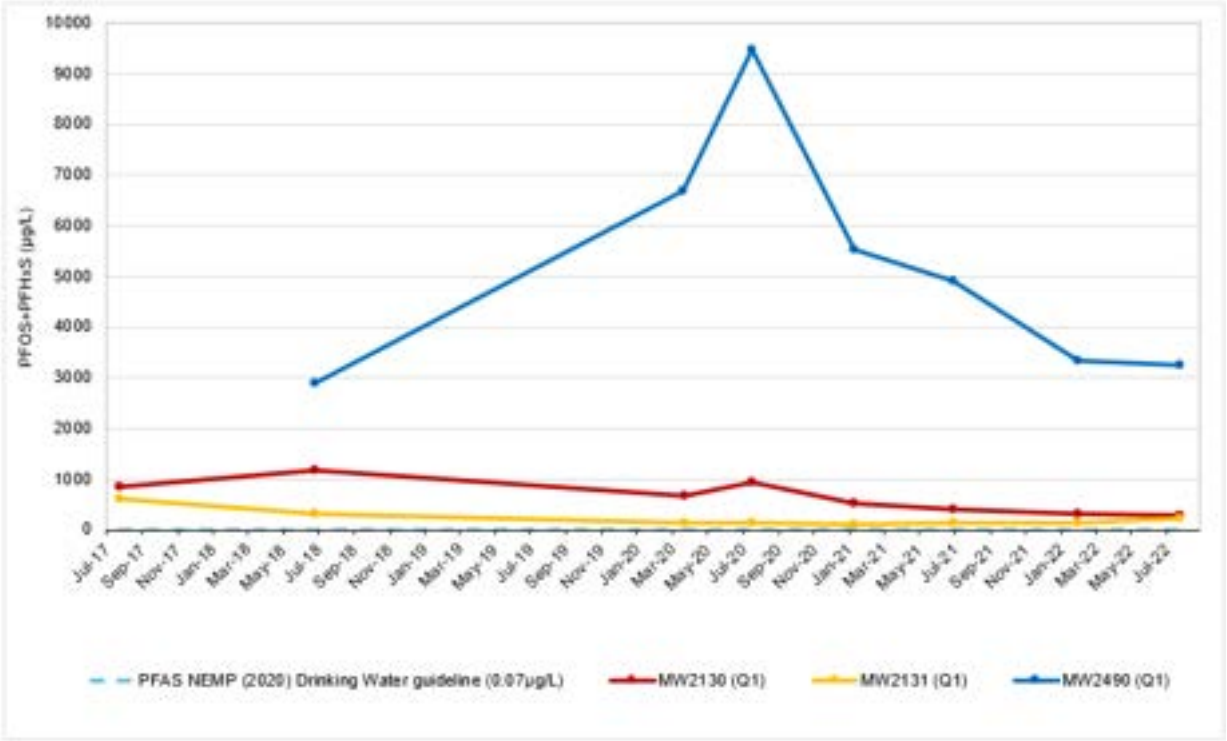


Figure 16 Q1 monitoring wells PFOS+PFHxS concentration trends at source areas P1, P3A, P3B and P27 (above 200 µg/L)

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

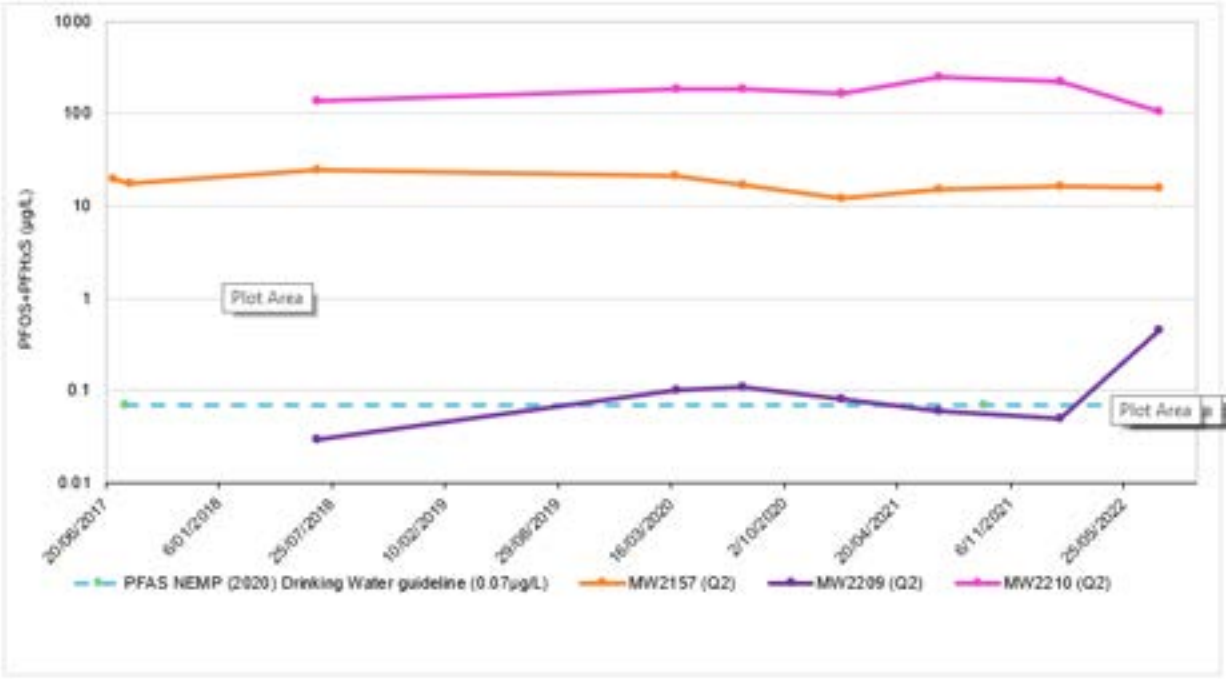


Figure 17 Q2 monitoring wells PFOS+PFHxS concentration trends at source areas P1, P3A, P3B and P27*

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

7.1.10 Southern, western and northern boundary PFAS analytical results

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

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

All locations reported concentrations of PFOS+PFHxS above the laboratory LOR in both monitoring events, except for MW2166 (Q1) along the northern boundary near the Northern Runway Extension and MW2176 (Q2) along the southern portion of the western boundary, which were reported below the LOR in both the dry season and wet season events. Concentrations of PFOS+PFHxS exceeded the NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.07 µg/L) at all locations with the exception of MW2166 (Q1) and MW2176 (Q2), mentioned above as reporting below the laboratory LOR, and MW2173 (Q2) along the western boundary in both the dry season and wet season events, and MW2182 (Q1) and MW2184 (Q1), both along the southern boundary near the Southern Runway Extension in wet season 2022.

Consistent with results from 2021, concentrations of PFOA were reported below the laboratory LOR in both monitoring events at 10 of the 22 sampled locations from the Q1 and Q2 aquifer. Concentrations were also reported below the laboratory LOR in July 2022 at MW2286 (Q4) along the southern boundary near the Southern Runway Extension.

New maximum PFOS+PFHxS and PFOA concentrations were reported at MW2183 (Q2) and at MW2185 (Q2), both along the southern boundary, in 2022.

Except for MW2183 (Q2) and MW2185 (Q2), concentrations of PFOS+PFHxS and PFOA for the 2022 dry season and wet season monitoring rounds were reported at similar or lower concentrations in comparison to the historical maximums.

Analytical results are summarised in **Table 13**, sampled locations are depicted in **Figure 18** and PFOS+PFHxS trends are illustrated in **Figure 19-22.** For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 13 Southern, western and northern boundary PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2021		OMP Monitoring	
		Min	Max	January/February 2022	July 2022
MW2129 (Q1)	PFOS+PFHxS	**15.7**	**98.3**	**9.51**	**19.3**
	PFOA	0.44	**3.82**	0.43	**0.67**
MW2137 (Q1)	PFOS+PFHxS	**11.1**	**38.8**	**19.3**	**22.7**
	PFOA	0.2	**0.56**	0.35	0.34
MW2139 (Q1)	PFOS+PFHxS	**0.17**	**0.44**	**0.13**	**0.16**
	PFOA	ND	ND	ND	ND
MW2145 (Q2)	PFOS+PFHxS	**1.5**	**2.45**	**1.45**	**1.55**
	PFOA	0.02	0.05	0.03	0.03
MW2166 (Q1)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND
MW2169 (Q1)	PFOS+PFHxS	**0.4**	**0.67**	**0.39**	**0.50**
	PFOA	ND	ND	ND	ND
MW2172 (Q1)	PFOS+PFHxS	**0.08**	**0.19**	**0.07**	**0.10**
	PFOA	ND	ND	ND	ND
MW2173 (Q2)	PFOS+PFHxS	0.02	**0.08**	0.02	0.04
	PFOA	ND	ND	ND	ND
MW2175 (Q1)	PFOS+PFHxS	**0.27**	**0.62**	**0.32**	**0.31**
	PFOA	ND	ND	ND	ND
MW2176 (Q2)	PFOS+PFHxS	ND	0.02	ND	ND
	PFOA	ND	ND	ND	ND
MW2177 (Q1)	PFOS+PFHxS	**7.26**	**11.3**	**5.99**	**7.81**
	PFOA	0.15	0.25	0.15	0.16
MW2180 (Q1)	PFOS+PFHxS	**120**	**234**	**78.3**	**106**
	PFOA	**7.05**	**13.5**	**4.64**	**7.77**
MW2182 (Q1)	PFOS+PFHxS	0.06	**0.20**	**0.07**	0.06
	PFOA	ND	ND	ND	ND
MW2183 (Q2)	PFOS+PFHxS	**2**	**5.13**	**4.93**	**5.98**[1]
	PFOA	0.03	0.08	0.09[1]	0.11[1]
MW2184 (Q1)	PFOS+PFHxS	**0.28**	**0.91**	**0.4**	0.04
	PFOA	ND	0.01	ND	ND

Well ID	Analyte	Historical range 2017-2021		OMP Monitoring	
		Min	Max	January/February 2022	July 2022
MW2185 (Q2)	PFOS+PFHxS	**3.07**	**8.68**	**9.03[1]**	**12.1[1]**
	PFOA	0.04	0.14	0.18[1]	0.22[1]
MW2275 (Q3)	PFOS+PFHxS	**0.12**	**1.78**	**1.39**	**1.50**
	PFOA	ND	0.19	0.12	0.12
MW2281 (Q3)	PFOS+PFHxS	**1.36**	**3.25**	**1.84**	**2.72**
	PFOA	0.02	0.09	0.03	0.04
MW2285 (Q4)	PFOS+PFHxS	ND	**1.15**	**0.2**	**0.19**
	PFOA	ND	0.02	ND	ND
MW2286 (Q4)	PFOS+PFHxS	**0.08**	**2.05**	**0.8**	**0.70**
	PFOA	ND	0.04	0.01	ND
MW2501 (Q1)	PFOS+PFHxS	**0.29**	**0.81**	**0.24**	**0.21**
	PFOA	0.01	0.03	0.02	0.01
MW4013 (Q1)	PFOS+PFHxS	**6.33**	**17.6**	**5.95**	**6.05**
	PFOA	0.11	0.24	0.13	0.12

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

ND = Not detected above laboratory limits of reporting

[1] New maximum value

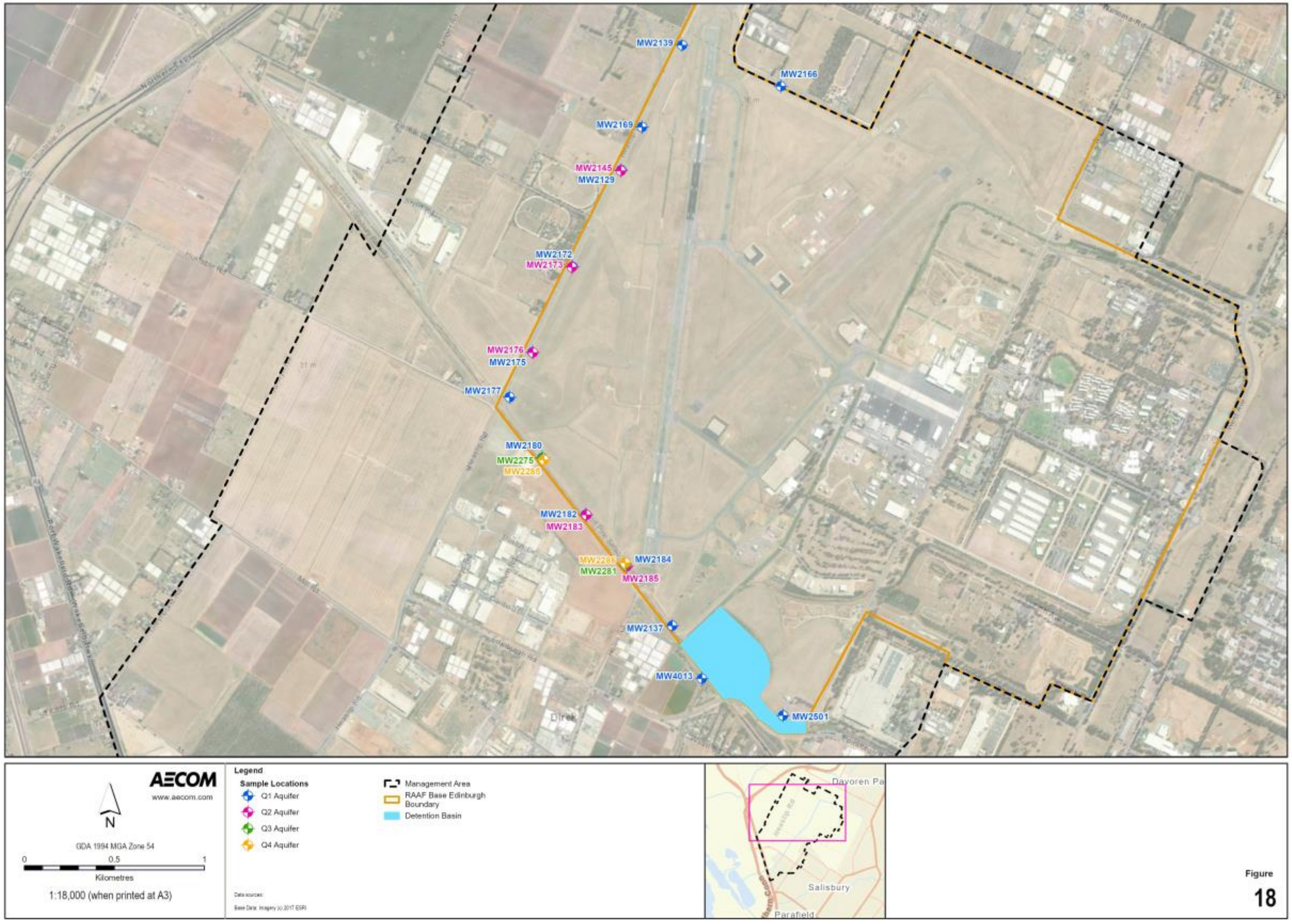


Figure 18 Southern, western and northern boundary sampled locations

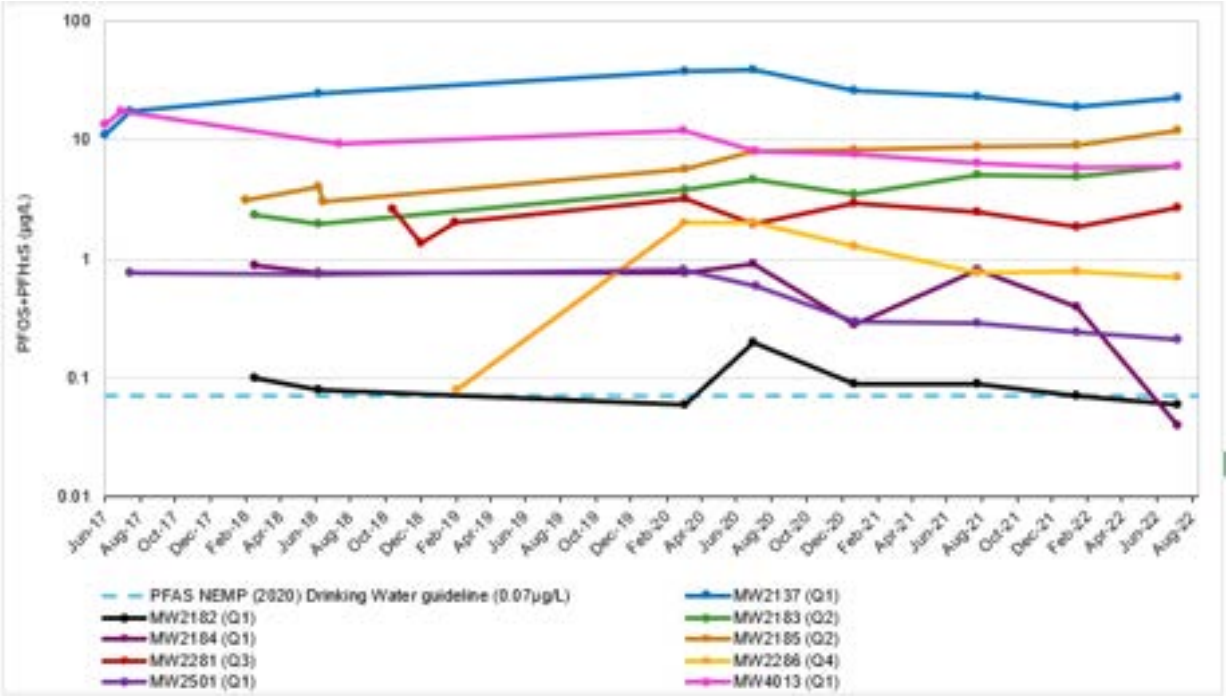


Figure 19 Southern boundary PFOS+PFHxS concentration trends*

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

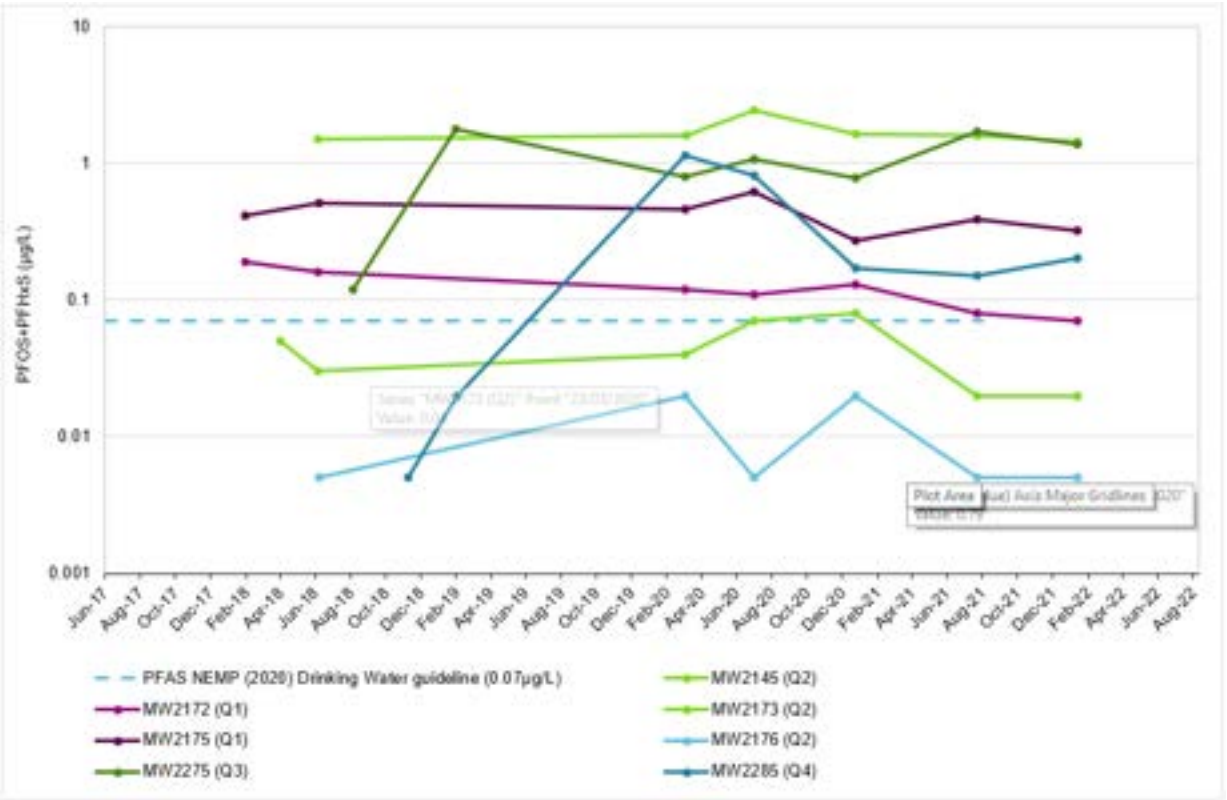


Figure 20 Western boundary PFOS+PFHxS concentration trends (below 3 µg/L)*

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

Figure 21 Western boundary PFOS+PFHxS concentration trends (above 3 µg/L)

Figure 22 Northern boundary PFOS+PFHxS concentration trends

7.1.11 Helps Road Drain PFAS analytical results

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

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

Concentrations of PFOS+PFHxS were reported above the laboratory LOR at all locations in 2022 with the exception of MW4070 (Q3) in both monitoring rounds. The PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07µg/L) guideline for PFOS+PFHxS was exceeded at all locations, with the exception of MW4070 (Q3) in both 2022 monitoring events.

Concentrations of PFOA were reported above the laboratory LOR at all locations during the 2022 monitoring events, with the exception of MW4045 (Q2) and MW4070 (Q3) which were non-detect in both monitoring rounds. PFOA results did not exceed the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56µg/L) at any location during the 2022 monitoring rounds.

New maximum values for PFOS+PFHxS and PFOA were reported in January/February 2022 and again in July 2022 at MW4075 (Q4).

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

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

Analytical results are summarised in **Table 14,** sampled locations are depicted in **Figure 23** and PFOS+PFHxS trends are illustrated in **Figure 24-26.** For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 14 Helps Road Drain PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW4001 (Q1)	PFOS+PFHxS	**1.23**	**4.5**	**1.06**	**1.15**
	PFOA	0.04	0.13	0.04	0.04
MW4003 (Q1)	PFOS+PFHxS	**10.7**	**17.8**	**12.0**	**12.5**
	PFOA	0.16	0.28	0.22	0.22
MW4015 (Q1)	PFOS+PFHxS	**11.2**	**20.2**	**9.68**	**11.4**
	PFOA	0.18	0.32	0.14	0.16
MW4035 (Q2)	PFOS+PFHxS	**13.3**	**44**	**13**	**18.9**
	PFOA	0.19	0.50	0.19	0.32
MW4045 (Q2)	PFOS+PFHxS	**0.36**	**1.55**	**0.35**	**0.29**
	PFOA	ND	0.02	ND	ND
MW4048 (Q2)	PFOS+PFHxS	**0.96**	**2.17**	**0.97**	**0.92**
	PFOA	0.04	0.07	0.04	0.04
MW4053 (Q1)	PFOS+PFHxS	**0.71**	**2.15**	**0.94**	**1.18**
	PFOA	0.02	0.04	0.02	0.03

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW4068 (Q3)	PFOS+PFHxS	ND	**22.5**	**8.19**	**8.30**
	PFOA	ND	0.34	0.14	0.12
MW4069 (Q3)	PFOS+PFHxS	**4.41**	**2.08**	**2.07**	**2.23**
	PFOA	0.05	0.11	0.06	0.05
MW4070 (Q3)	PFOS+PFHxS	ND	0.07	ND	ND
	PFOA	ND	ND	ND	ND
MW4075 (Q4)	PFOS+PFHxS	ND	**0.21**	**0.45**[1]	**0.40**
	PFOA	ND	0.01	0.02[1]	0.02

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

ND = Not detected above laboratory limits of reporting

[1] New maximum value

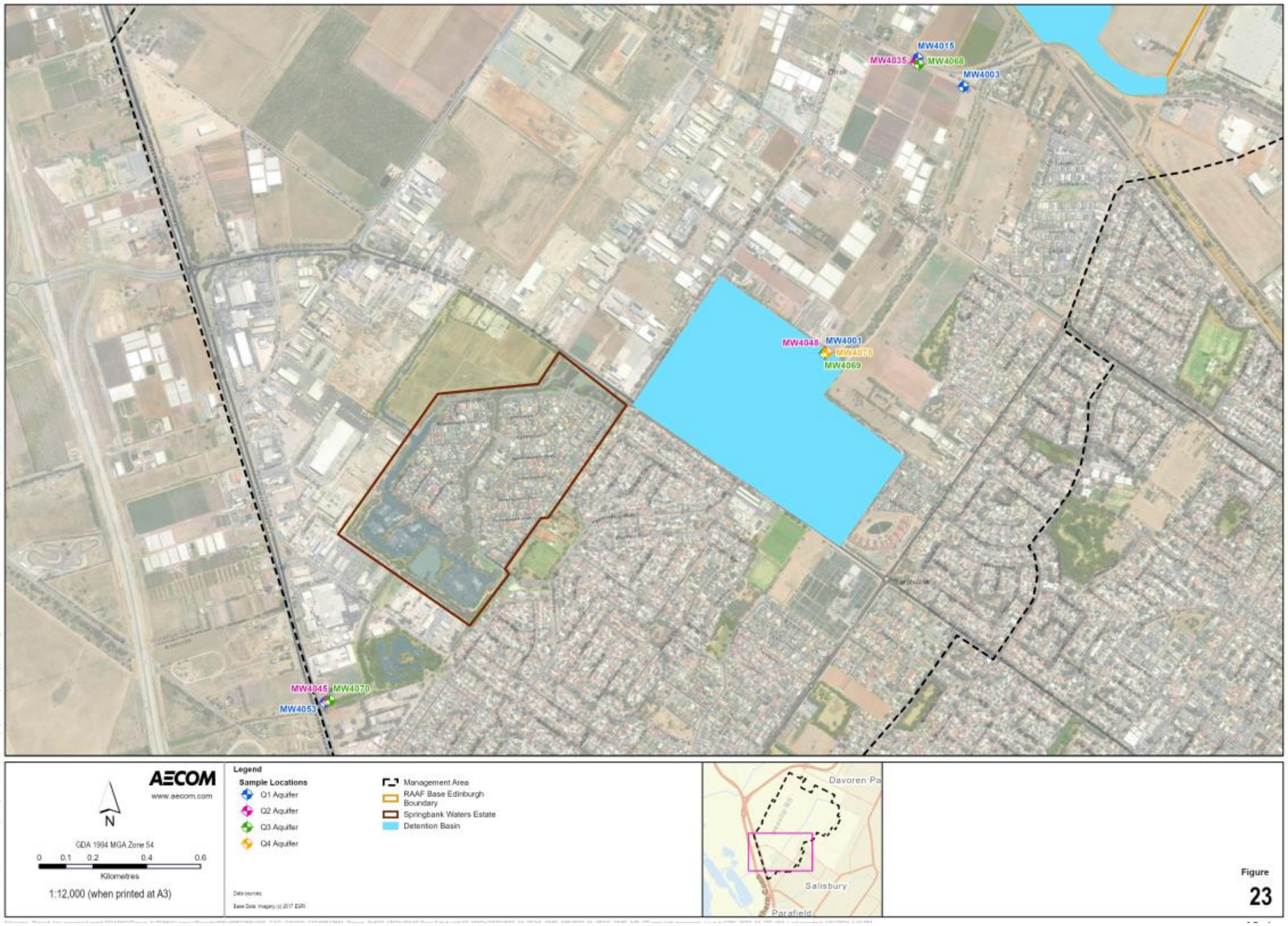


Figure 23 Helps Road drain sampled locations

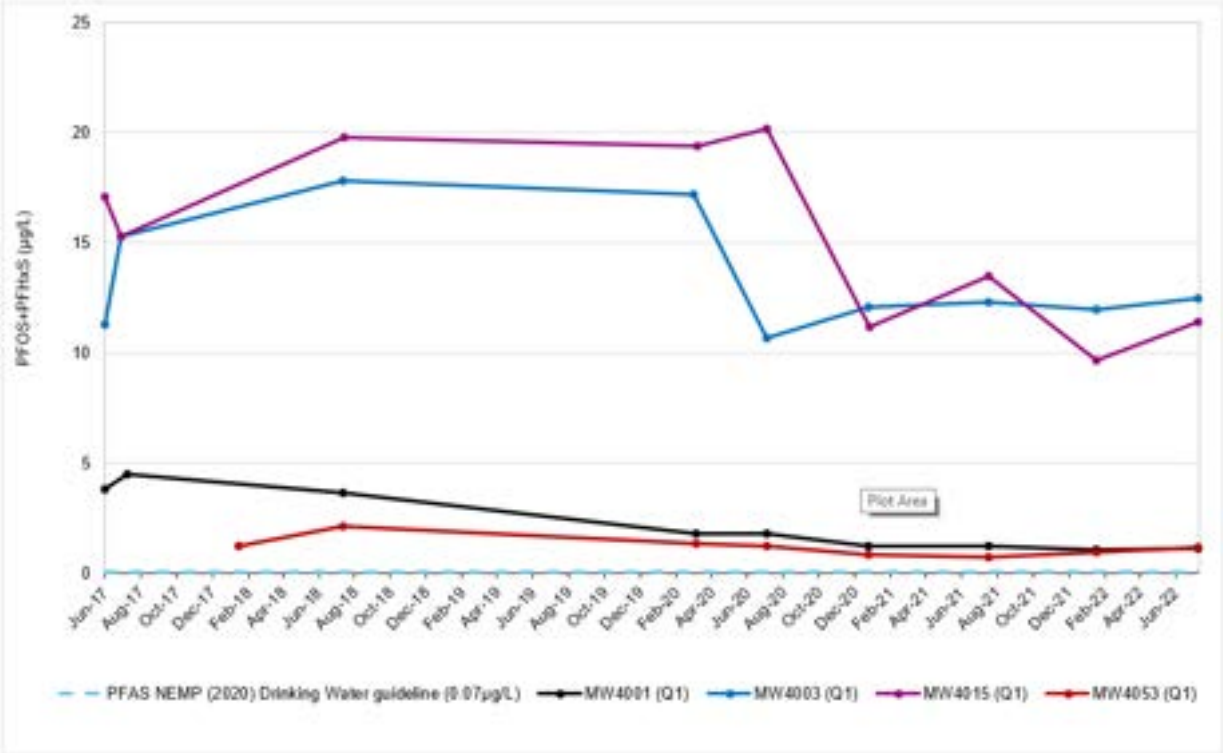


Figure 24 Q1 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain

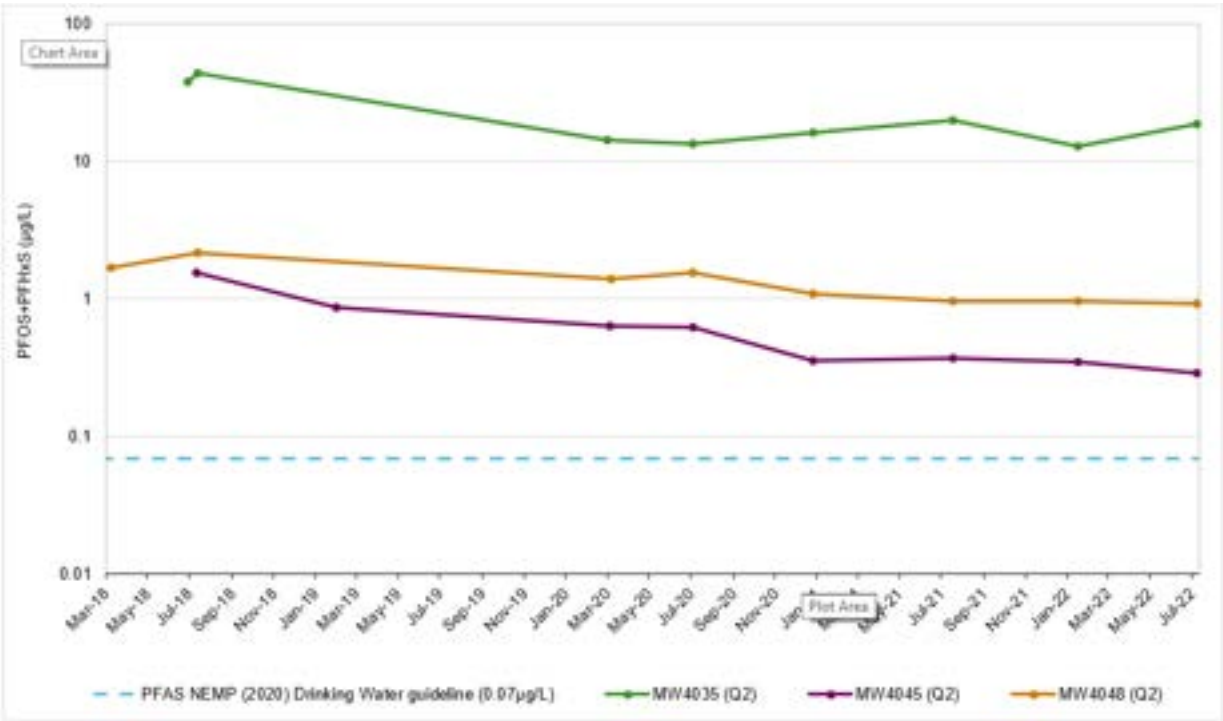


Figure 25 Q2 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain*

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

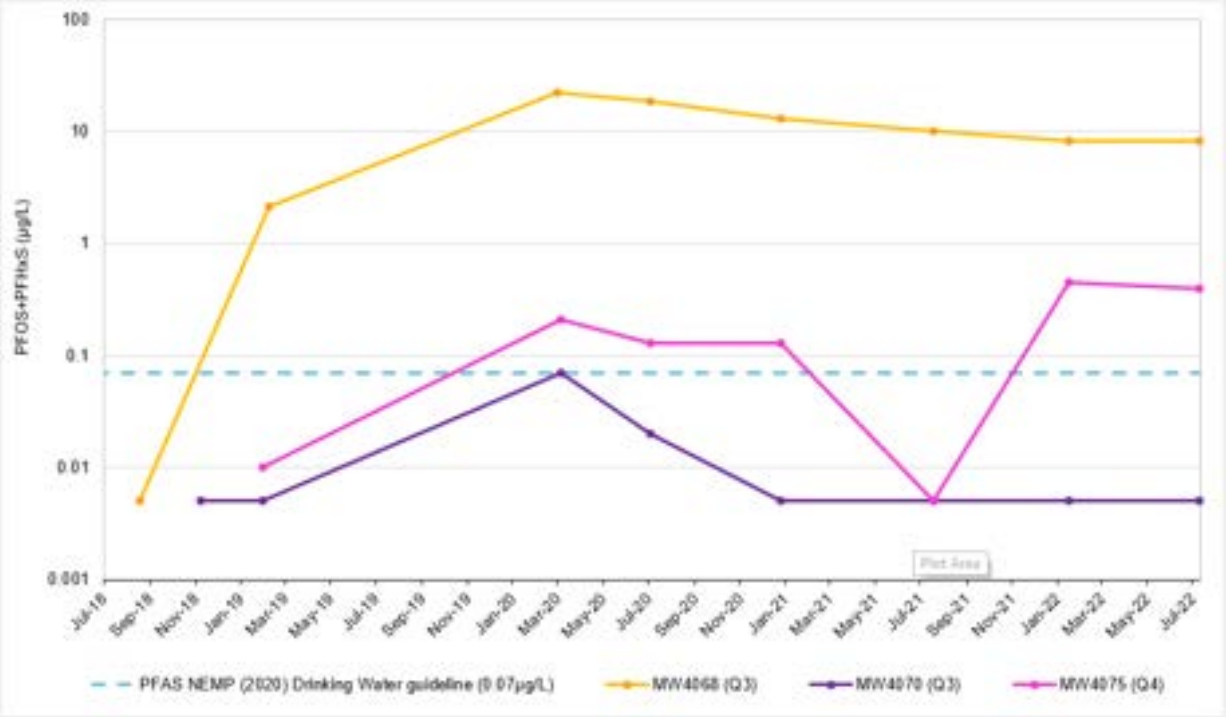


Figure 26 Q3 and Q4 monitoring wells PFOS+PFHxS concentration trends at Helps Road Drain

7.1.12 Off-Base lateral extent of PFAS analytical results

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

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

It is noted that MW4076 (Q2) was not sampled in the January/February 2022 monitoring event due to being submerged in pooled surface water.

Concentrations of PFOS+PFHxS were reported above the laboratory LOR at MW4023 (Q1), MW4024 (Q2), MW4037 (Q1), MW4052 (Q1), MW4061 (Q1), MW4071 (Q3), MW4072 (Q1), MW4076 (Q2), MW4077 (Q2) and MW4219 (Q1), all other locations were reported below the laboratory LOR. The PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07µg/L) guideline for PFOS+PFHxS was exceeded at MW4023 (Q1), MW4024 (Q2) and MW4219 (Q1) in both the 2022 monitoring events. These results are consistent with historical exceedances of the adopted criteria.

A new maximum value for PFOS+PFHxS was reported at MW4077 in July 2022, however this did not result in an exceedance of adopted guidelines.

Concentrations of PFOA were reported above the laboratory LOR in three locations; MW4023 (Q1) and MW4024 (Q2) in the 2022 dry season and wet season monitoring rounds and MW4219 (Q1) in the dry season monitoring round only, all other locations were reported below the laboratory LOR. PFOA results did not exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water guideline (0.56µg/L) at any location in the 2022 monitoring events.

It is noted that identified concentrations of PFOS+PFHxS and PFOA for the 2022 dry season and wet season monitoring rounds were reported at similar or lower concentrations in comparison to the historical maximums, with the exception of MW4077 (Q2).

Analytical results are summarised in **Table 15** sampled locations are depicted in **Figure 27,** and PFOS+PFHxS trends are illustrated in **Figure 28.** For graphical purposes only results above guidelines are presented. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 15 Lateral extent of PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2018-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW4009 (Q1)	PFOS+PFHxS	ND	**0.11**	ND	ND
	PFOA	ND	ND	ND	ND
MW4020 (Q1)	PFOS+PFHxS	ND	0.03	ND	ND
	PFOA	ND	ND	ND	ND
MW4021 (Q2)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4022 (Q1)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4023 (Q1)	PFOS+PFHxS	**1.56**	**2.55**	**1.67**	**1.60**
	PFOA	0.03	0.06	0.04	0.04
MW4024 (Q2)	PFOS+PFHxS	**0.90**	**1.53**	**0.95**	**1.00**
	PFOA	0.02	0.03	0.02	0.02
MW4027 (Q1)	PFOS+PFHxS	ND	**0.43**	ND	ND
	PFOA	ND	ND	ND	ND
MW4037 (Q1)	PFOS+PFHxS	ND	0.02	ND	0.01
	PFOA	ND	ND	ND	ND
MW4041 (Q1)	PFOS+PFHxS	ND	0.06	ND	ND
	PFOA	ND	ND	ND	ND
MW4052 (Q1)	PFOS+PFHxS	0.01	**0.09**	0.06	ND
	PFOA	ND	0.02	ND	ND
MW4055 (Q1)	PFOS+PFHxS	ND	**0.77**	ND	ND
	PFOA	ND	ND	ND	ND
MW4059 (Q1)	PFOS+PFHxS	ND	0.04	ND	ND
	PFOA	ND	ND	ND	ND
MW4060 (Q1)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4061 (Q1)	PFOS+PFHxS	ND	0.06	0.01	ND
	PFOA	ND	0.01	ND	ND
MW4064 (Q1)	PFOS+PFHxS	ND	0.04	ND	ND
	PFOA	ND	ND	ND	ND
	PFOS+PFHxS	ND	0.02	0.01	ND

Well ID	Analyte	Historical range 2018-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW4071 (Q3)	PFOA	ND	ND	ND	ND
MW4072 (Q1)	PFOS+PFHxS	ND	0.02	0.02	0.02
	PFOA	ND	ND	ND	ND
MW4076 (Q2)	PFOS+PFHxS	0.02	**0.29**	NA	0.04
	PFOA	ND	0.01	NA	ND
MW4077 (Q2)	PFOS+PFHxS	ND	0.03	ND	0.05[1]
	PFOA	ND	ND	ND	ND
MW4219 (Q1)	PFOS+PFHxS	**0.38**	**0.90**	**0.36**	**0.34**
	PFOA	0.01	0.03	0.01	ND

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

ND = Not detected above laboratory limits of reporting

NA = Not analysed

[1] New maximum value

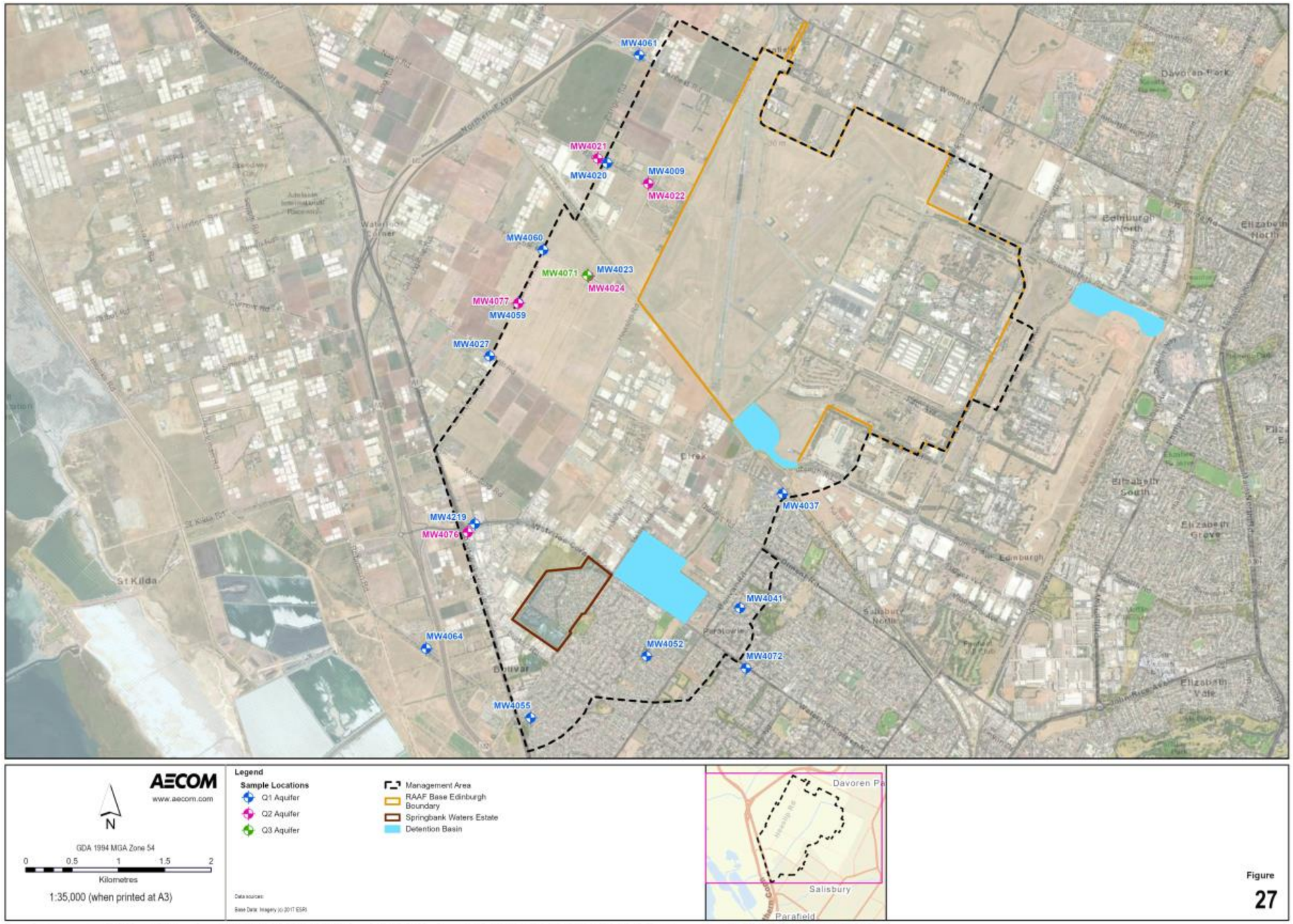


Figure 27 Off-Base lateral extent sampled locations

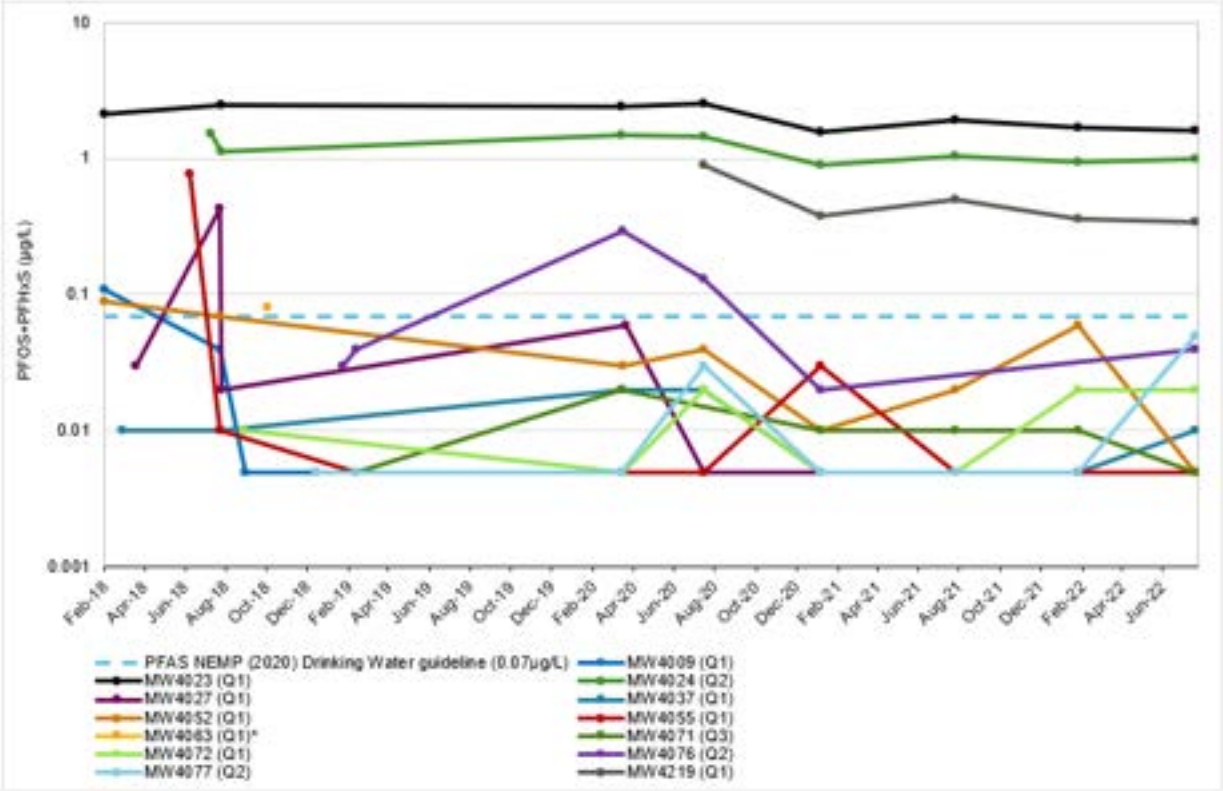


Figure 28 Monitoring locations characterising the lateral extent of PFOS+PFHxS concentration trends. *Includes MW4063 (replaced location) results.

7.1.13 Proximity to identified licensed groundwater users and private bore PFAS analytical results

Selected monitoring wells off-Base are located to measure PFAS concentrations with proximity to identified licensed groundwater users, including sampling at one private property bore. A summary of the well locations follows:

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

PFOS+PFHxS concentrations were reported above the LOR in 6 of the 10 locations sampled: MW4057 (Q1), MW4066 (Q2), MW4069 (Q3), MW4073 (Q3), MW4074 (Q3) and MW4079 (Q4) in both the dry season and wet season 2022 monitoring rounds. Concentrations of PFOS+PFHxS at all locations that were reported above the laboratory LOR also exceeded the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07 µg/L) guideline, except for MW4079 in both the dry and wet season monitoring rounds.

A new maximum PFOS+PFHxS concentration and a new exceedance of the human health guidelines was reported at MW4074 (Q3) in January 2022. A new maximum was reported again at MW4074 in the July 2022 monitoring event.

All concentrations of PFOA were below the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.56µg/L) guideline. Concentrations of PFOA were reported above the laboratory LOR at all locations with the exception of MW4058 (Q1), MW4065 (Q2), MW4074 (Q3) and MW4078 (Q4) in both 2022 monitoring events.

All concentrations at private bore MW4223 (Q2) were below the laboratory LOR in both 2022 monitoring events, consistent with historical results.

It is noted that concentrations of PFOS+PFHxS and PFOA reported for the 2022 monitoring events were consistent with the historical range of concentrations, with the exception of MW4074 (Q3), as discussed above.

Analytical results are summarised in **Table 16,** sampled locations are depicted in **Figure 29** and PFOS+PFHxS trends are illustrated in **Figure 30** and **Figure 31.** For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L).

Table 16 Proximity to identified licensed groundwater users and private bore PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2018-2021		2022 Monitoring	
		Min	Max	January/February 2022	July 2022
MW4057 (Q1)	PFOS+PFHxS	**0.18**	**0.36**	**0.15**	**0.10**
	PFOA	0.02	0.05	0.02	0.01
MW4058 (Q1)	PFOS+PFHxS	ND	0.01	ND	ND
	PFOA	ND	ND	ND	ND
MW4065 (Q2)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND
MW4066 (Q2)	PFOS+PFHxS	**0.22**	**0.42**	**0.19**	**0.20**
	PFOA	0.01	0.02	0.01	0.01
MW4069 (Q3)	PFOS+PFHxS	**2.08**	**4.41**	**2.07**	**2.23**
	PFOA	0.05	0.11	0.06	0.05
MW4073 (Q3)	PFOS+PFHxS	**0.29**	**0.78**	**0.32**	**0.32**
	PFOA	0.03	0.12	0.04	0.04
MW4074 (Q3)	PFOS+PFHxS	ND	0.03	**0.09**[1,2]	**0.15**[1]
	PFOA	ND	ND	ND	ND
MW4078 (Q4)	PFOS+PFHxS	ND	0.06	ND	ND
	PFOA	ND	ND	ND	ND
MW4079 (Q4)	PFOS+PFHxS	0.04	**0.88**	0.04	0.07
	PFOA	ND	0.02	0.01	0.02
MW4223 (Q2)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND

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

ND = Not detected above laboratory limits of reporting

[1] New maximum value

[2] New exceedance of PFAS NEMP 2.0 (2020) drinking water guideline (0.07 µg/L for PFOS+PFHxS and 0.56 µg/L for PFOA)

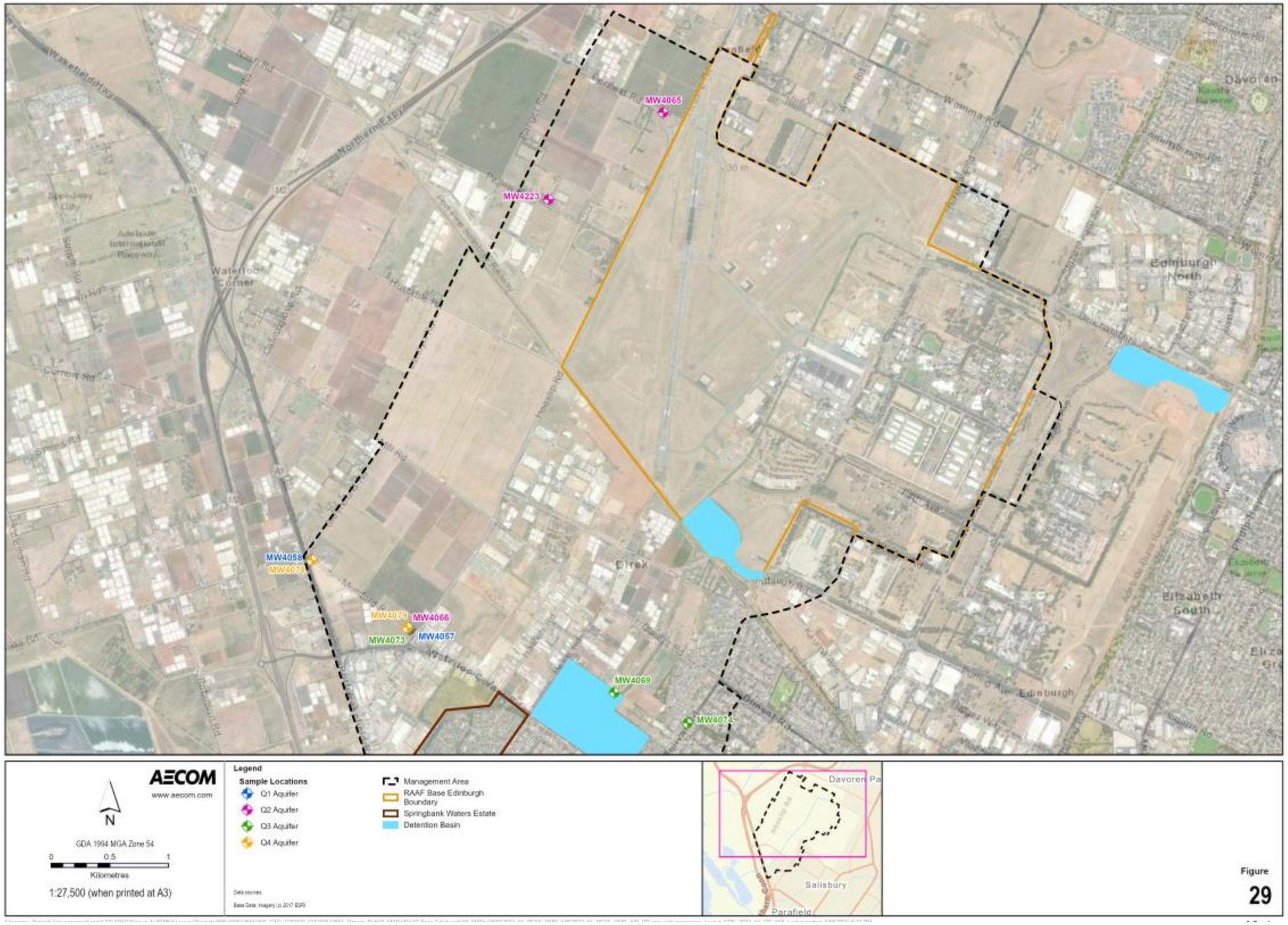


Figure 29 Sampled locations with proximity to identified licensed groundwater users

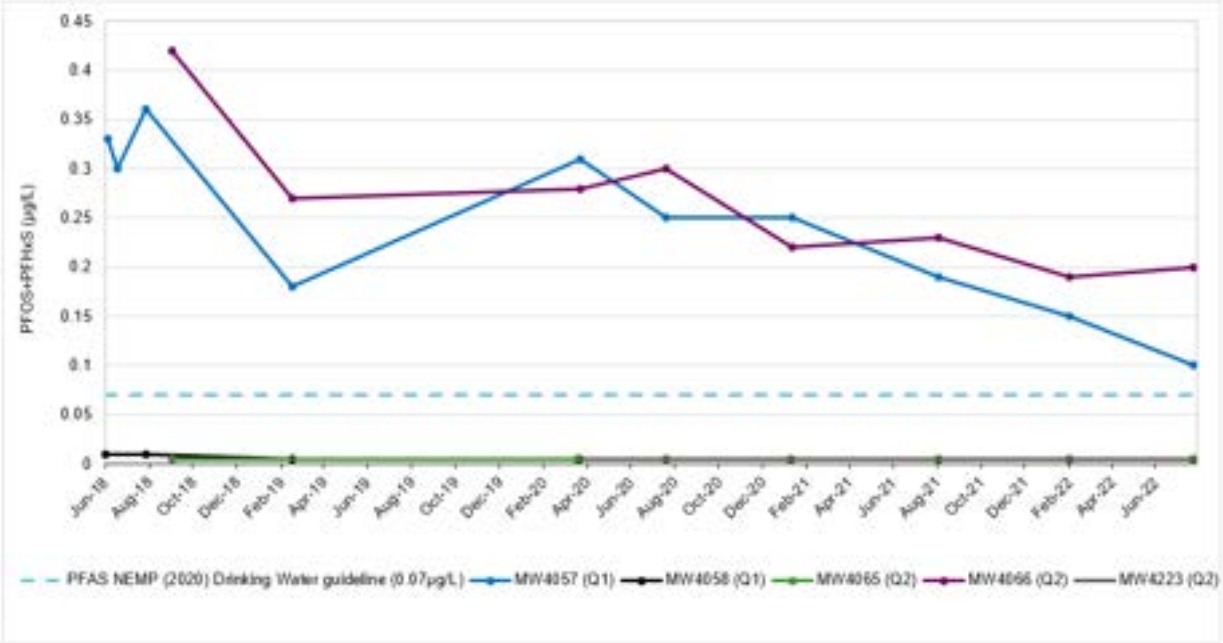


Figure 30 Q1 and Q2 monitoring locations with proximity to identified groundwater users PFOS+PFHxS concentration trends

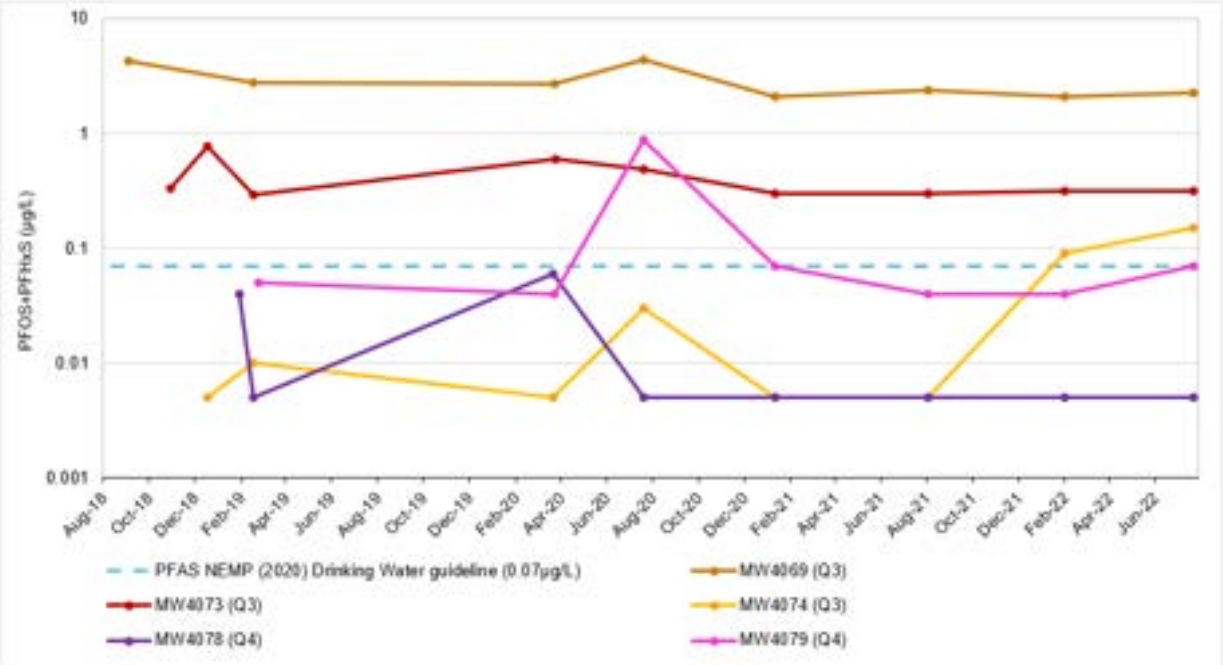


Figure 31 Q3 and Q4 monitoring locations with proximity to identified groundwater users PFOS+PFHxS concentration trends

7.1.14 Tertiary aquifer bores PFAS analytical results

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

Concentrations of PFOA and PFOS+PFHxS at all T1 monitoring well locations were below the laboratory LOR for both 2022 monitoring events. Historically, PFOS+PFHxS has only been reported above the laboratory LOR at MW4220 in March 2020 (0.02 µg/L).

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

Analytical results are summarised in **Table 17** and sample locations are depicted in **Figure 32**.

Table 17 Tertiary aquifer bores PFAS summary results (µg/L)

Well ID	Analyte	Historical range 2017-2021		2022 Monitoring	
		Min	Max	January/February 2022	July2022
MW4220 (T1)	PFOS+PFHxS	ND	0.02	ND	ND
	PFOA	ND	ND	ND	ND
MW4221 (T1)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND
MW4222 (T1)	PFOS+PFHxS	ND	ND	ND	ND
	PFOA	ND	ND	ND	ND

ND = Not detected above laboratory limits of reporting

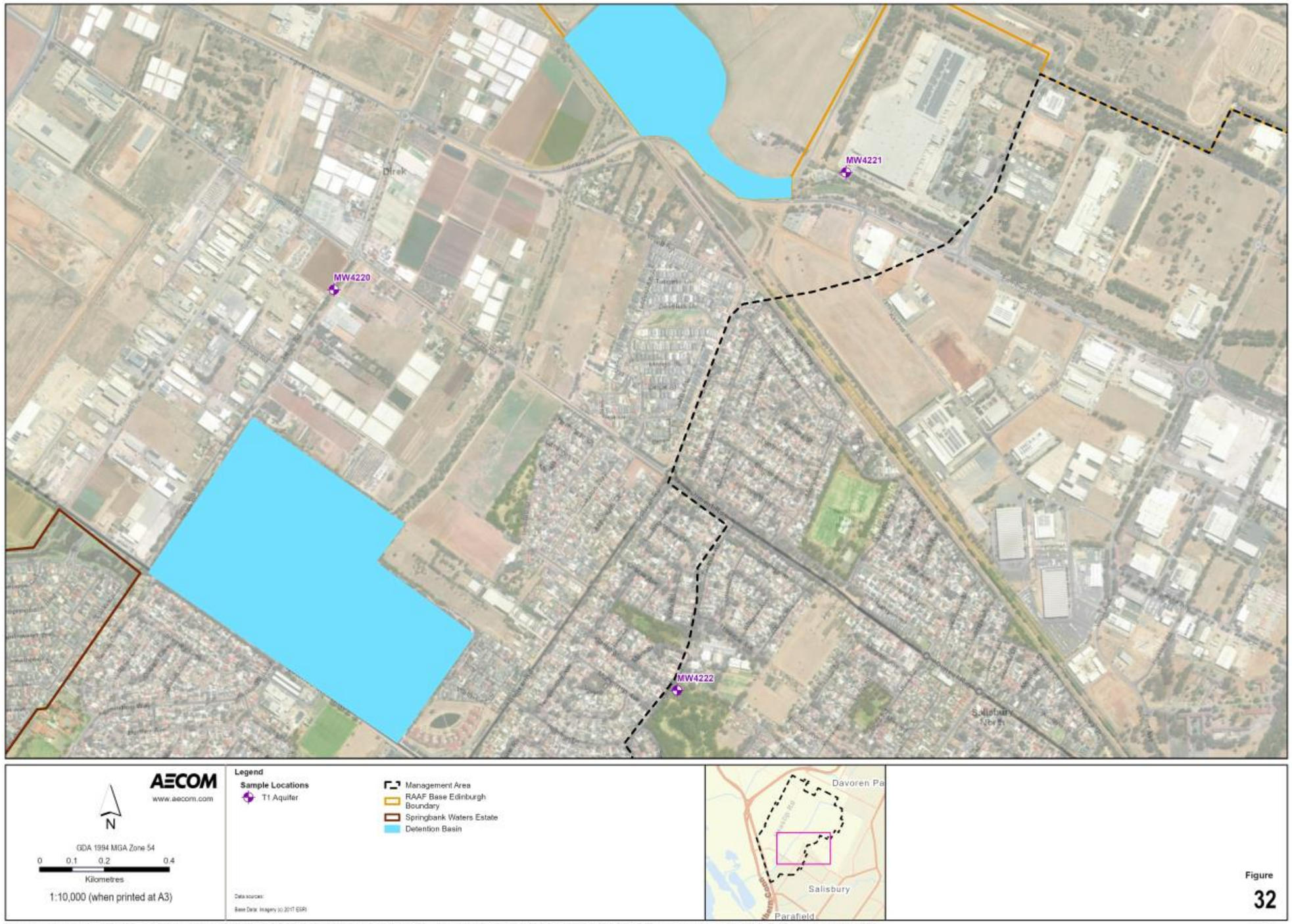


Figure 32 Sampled locations of T1 aquifer bores

7.2 Surface water

7.2.1 Surface water field observations

During the January/February 2022 monitoring event, field staff noted the following:

- No rainfall occurred during the January/February sampling event and insufficient rainfall was recorded in the weeks following for adequate volume to sample.

During the July 2022 monitoring event, field staff noted the following:

- SW037 had insufficient water for sampling
- An oil sheen was noted at the surface of SW059, which has a pollutant trap
- SW006, SW010 and SW062 were noted to be flowing towards the southwest
- SW012 was noted to be flowing southeast
- SW018 and SW078 were observed to be flowing to the south
- The remainder of surface water sample locations had no apparent flow direction.

7.2.2 Surface water physicochemical parameters

Surface water physiochemical parameters were recorded at the time of collecting samples. Parameters recorded since the commencement of the OMP in March 2020 are presented in **Table T3** (**Appendix D**). Field parameters from the 2022 monitoring period are presented in the OMP July 2022 Factual Report in **Appendix C**, and summarised below:

- Dissolved oxygen ranged from 2.56 mg/L (SW006) to 14.5 mg/L (SW028), indicating moderately to well oxygenated conditions.
- Electrical conductivity ranged from 155 µS/cm (SW019) to 1347 µS/cm (SW078), indicating freshwater conditions.
- pH ranged from 7.06 (SW006) to 9.23 (SW028). pH results indicate neutral to slightly basic conditions.
- ORP (corrected) ranged from 19.8 mV (SW021) to 265 mV (SW006) oxidising conditions.

7.2.3 Surface water analytical results

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

A summary of surface water analytical results, including historical OMP results, is provided in **Table 18** below.

Table 18 Summary of PFAS in surface water

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

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

Surface water sample from SW019 reported the highest reported PFOS+PFHxS and PFOA concentrations during the current monitoring period, and historically. SW019 is located on-Base at source area P1.

During the 2022 reporting period, no new exceedances of ecological or recreational guidelines were reported for surface water samples.

One first time detection of PFOA was identified in one OMP surface water sampling location, as presented in **Table 19**:

Table 19 Surface water results - first-time detections of PFOA

Location	Area	Details
July 2022		
SW011	Off-Base Drain Network – Helps Road Drain	PFOA (0.02 µg/L)

During the current monitoring period, the following new maximum concentrations of PFOS+PFHxS and PFOA were identified in OMP surface water sampling locations as presented in **Table 20**:

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

Location	Area	Details
July 2022		
SW011	Off-Base Drain Network – Helps Road Drain	PFOS+PFHxS (0.70 µg/L) PFOA (0.02 µg/L) PFOS (0.27 µg/L)

During the current monitoring period, the following new minimum concentrations of PFOS+PFHxS and/or PFOA were identified in OMP surface water sampling locations as presented in **Table 21**:

Table 21 Surface water results – new minimum concentrations of PFOS+PFHxS

Location	Area	Details
July 2022		
SW010	Off-Base – Helps Road Drain	PFOS+PFHxS (0.07 µg/L) PFOS (0.05 µg/L)
SW021	On-Base Drain Network	PFOS+PFHxS (<0.01 µg/L) PFOS (<0.01 µg/L)
SW078	Off-Base – Kaurna Park Wetland	PFOS+PFHxS (<0.01 µg/L) PFOS (<0.01 µg/L)

7.2.4 Upgradient (on- and off-Base) surface water PFAS results

Five surface water monitoring locations are located up hydraulic gradient; of these, two locations (SW003 and SW028) are located on-Base and three locations (SW029, SW032 and SW033) are located off-Base. Analytical results are summarised in **Table 22** and PFOS+PFHxS trends are illustrated in **Figure 33**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L). Results are summarised below:

- All sampled upgradient locations reported PFOS+PFHxS, PFOA and PFOS concentrations below the laboratory LOR (and therefore below all adopted guidelines) for the 2022 monitoring round.
- A decrease in PFOA, PFOS and PFOS+PFHxS concentrations from the historical maxima was observed at all locations in 2022.

Table 22 Upgradient surface water PFAS summary results (µg/L)

Location ID	Analyte	Historical Range 2017-2021		2022 Monitoring
		Min	Max	July 2022
SW003	PFOS+PFHxS	ND	0.01	ND
	PFOA	ND	ND	ND
	PFOS	ND	0.01	ND
SW028	PFOS+PFHxS	ND	0.01	ND
	PFOA	ND	0.01	ND
	PFOS	ND	0.01	ND
SW029	PFOS+PFHxS	ND	0.20	ND
	PFOA	ND	0.01	ND
	PFOS	ND	0.08	ND
SW032	PFOS+PFHxS	ND	ND	ND
	PFOA	ND	ND	ND
	PFOS	ND	ND	ND
SW033	PFOS+PFHxS	ND	0.02	ND
	PFOA	ND	ND	ND
	PFOS	ND	0.02	ND

ND = Not detected above laboratory limits of reporting

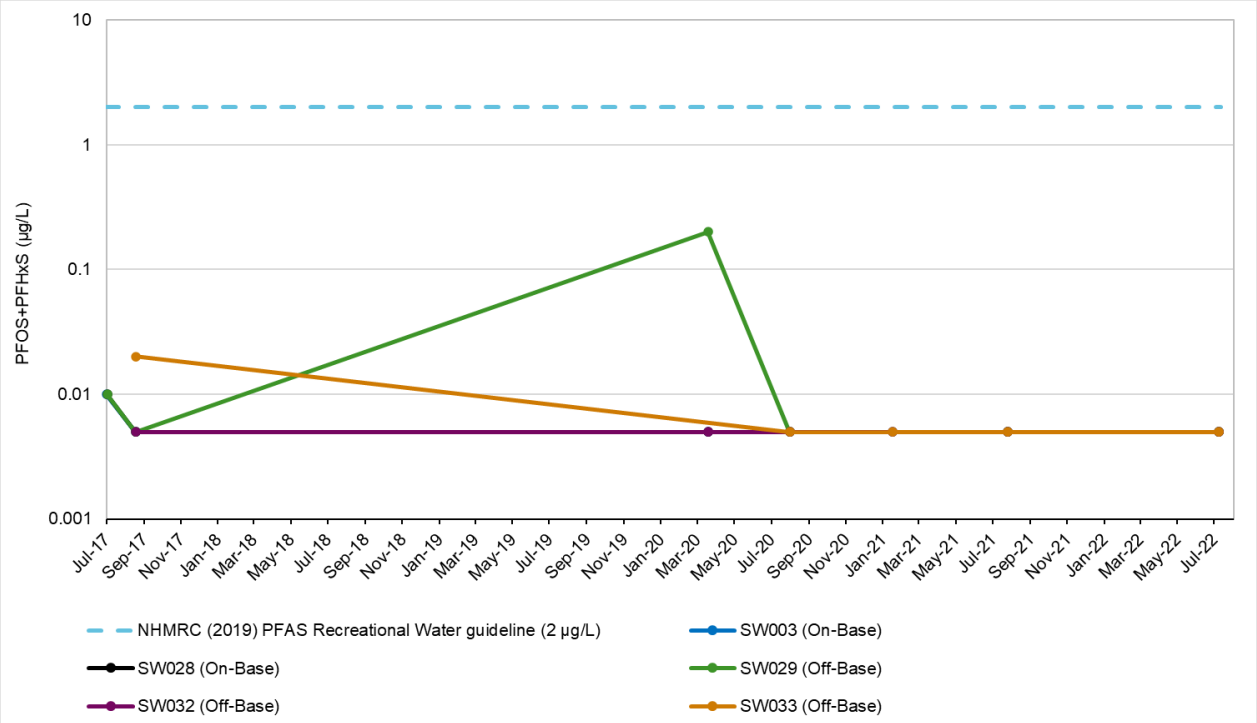


Figure 33 Upgradient surface water locations PFOS+PFHxS concentration trends*

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

7.2.5 On-Base surface water PFAS results

Eight surface water locations (SW006, SW017, SW018, SW019, SW021, SW050, SW054 and SW037) capture the conditions of the surface water drainage network on-Base. Surface water location SW037 captures the conditions of water exiting the Base drainage network.

Analytical results are summarised in **Table** 23 and PFOS+PFHxS trends are illustrated in **Figure 34**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L). Results are summarised below:

- SW037 was not able to be sampled in the 2022 monitoring round as the location had insufficient water for a sample.
- All sampled on-Base locations reported PFOS and PFOA concentrations below the adopted recreational guidelines for the 2022 monitoring round.
- All locations were reported below the adopted ecological guidelines, with the exception of SW019, which exceeded the PFAS NEMP 2.0 (HEPA, 2020) 95% species protection guideline for PFOS, consistent with historical concentrations.
- For the more impacted location SW019, concentrations in 2022 remained above the adopted ecological criteria but were consistent with concentrations reported throughout OMP monitoring, with both PFOS+PFHxS and PFOA concentrations between 1 and 2 orders of magnitude below historical maxima.
- Recorded PFAS concentrations at all surface water locations are generally within historical ranges.

Table 23 On-Base surface water PFAS summary results (µg/L)

Location ID	Analyte	Historical range 2017 - 2021		OMP Monitoring
		Min	Max	July 2022
SW006	PFOS+PFHxS	0.05	1.77	0.11

Location ID	Analyte	Historical range 2017 - 2021		OMP Monitoring
		Min	Max	July 2022
	PFOA	ND	0.03	ND
	PFOS	0.05	1.64	0.09
SW017	PFOS+PFHxS	ND	0.30	ND
	PFOA	ND	0.02	ND
	PFOS	ND	0.2	ND
SW018	PFOS+PFHxS	0.02	0.97	0.02
	PFOA	ND	0.03	ND
	PFOS	0.02	0.27	0.02
SW019	PFOS+PFHxS	0.49	**148**	1.97
	PFOA	0.02	3.3	0.07
	PFOS	0.36	120	1.45
SW021	PFOS+PFHxS	0.02	0.04	ND
	PFOA	ND	0.01	ND
	PFOS	0.02	0.04	ND
SW037	PFOS+PFHxS	0.03	0.12	NA
	PFOA	ND	ND	NA
	PFOS	0.03	0.1	NA
SW050	PFOS+PFHxS	ND	0.21	0.06
	PFOA	ND	ND	ND
	PFOS	ND	0.19	0.06
SW054	PFOS+PFHxS	ND	0.24	0.07
	PFOA	ND	ND	ND
	PFOS	0.01	0.22	0.06

ND = Not detected above laboratory limits of reporting

NA = Not analysed

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

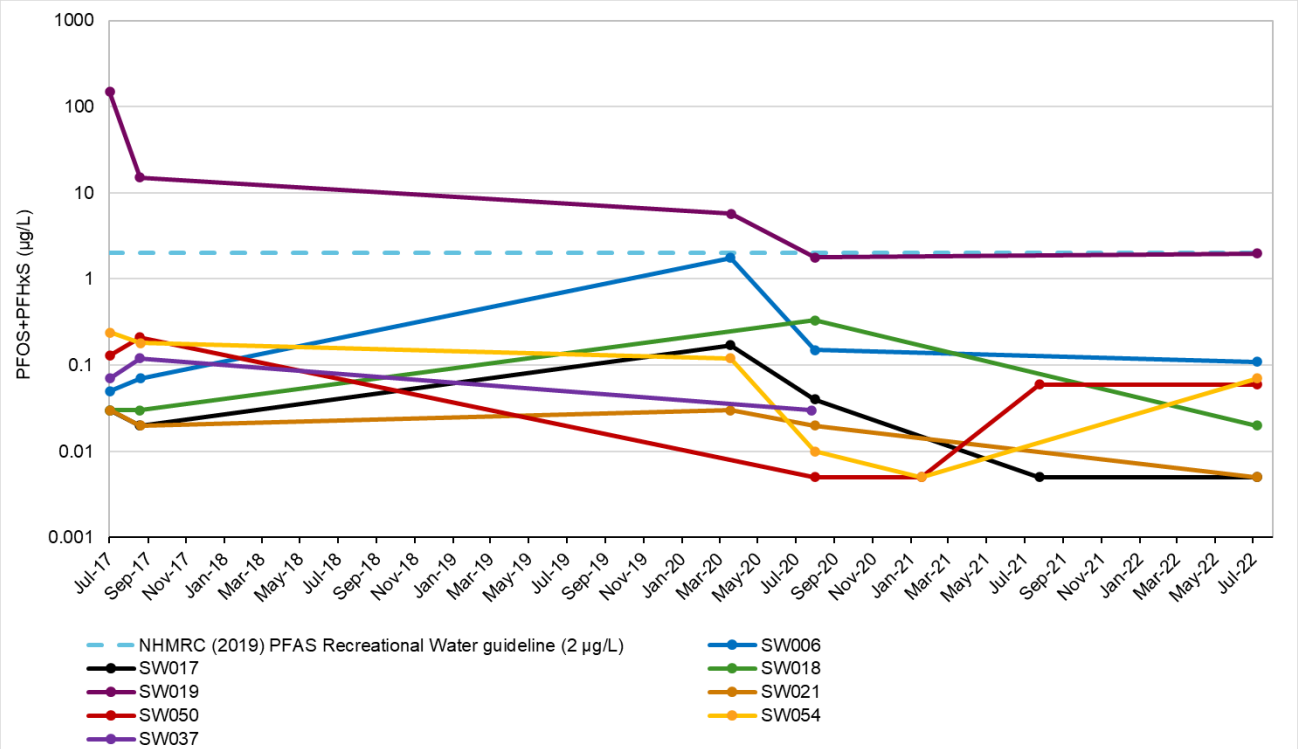


Figure 34 On-Base surface water PFOS+PFHxS concentration trends*

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

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

Five surface water locations (SW009, SW010, SW011, SW012 and SW062) capture the conditions of the surface water in the Helps Road Drain off-Base. Analytical results are summarised in **Table 24** and PFOS+PFHxS trends are illustrated in **Figure 35**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L). Results are summarised below:

- All sampled Helps Road Drain (off-Base) locations reported PFOS+PFHxS and PFOA concentrations below adopted guidelines for the 2022 monitoring round, with the exception of SW011.
- The highest concentration to date of PFOS+PFHxS and PFOS, and a first-time detect of PFOA were reported at SW011 in July 2022. Concentrations exceeded the adopted ecological guideline for PFOS but remained below health-based recreational guidelines and did not represent a new exceedance.
- It is noted that concentrations of PFOS+PFHxS, PFOS and PFOA were reported at similar or lower concentrations in 2022 in comparison to the historical range, with the exception of the increase in SW011.

Table 24 Helps Road Drain (off-Base) PFAS summary results (µg/L)

Location ID	Analyte	Historical range 2017-2021		2022 Monitoring
		Min	Max	July 2022
SW009	PFOS+PFHxS	0.02	0.16	0.08
	PFOA	ND	0.01	ND
	PFOS	0.02	0.14	0.07

Location ID	Analyte	Historical range 2017-2021		2022 Monitoring
		Min	Max	July 2022
SW010	PFOS+PFHxS	0.1	0.38	0.07
	PFOA	ND	0.08	ND
	PFOS	0.08	0.26	0.05
SW011	PFOS+PFHxS	NA	0.21	0.70
	PFOA	ND	ND	0.02
	PFOS	ND	0.19	0.27
SW012	PFOS+PFHxS	0.03	0.17	0.05
	PFOA	ND	0.02	ND
	PFOS	0.03	0.12	0.04
SW062	PFOS+PFHxS	0.02	0.15	0.05
	PFOA	ND	0.01	ND
	PFOS	0.02	0.13	0.03

ND = Not detected above laboratory limits of reporting

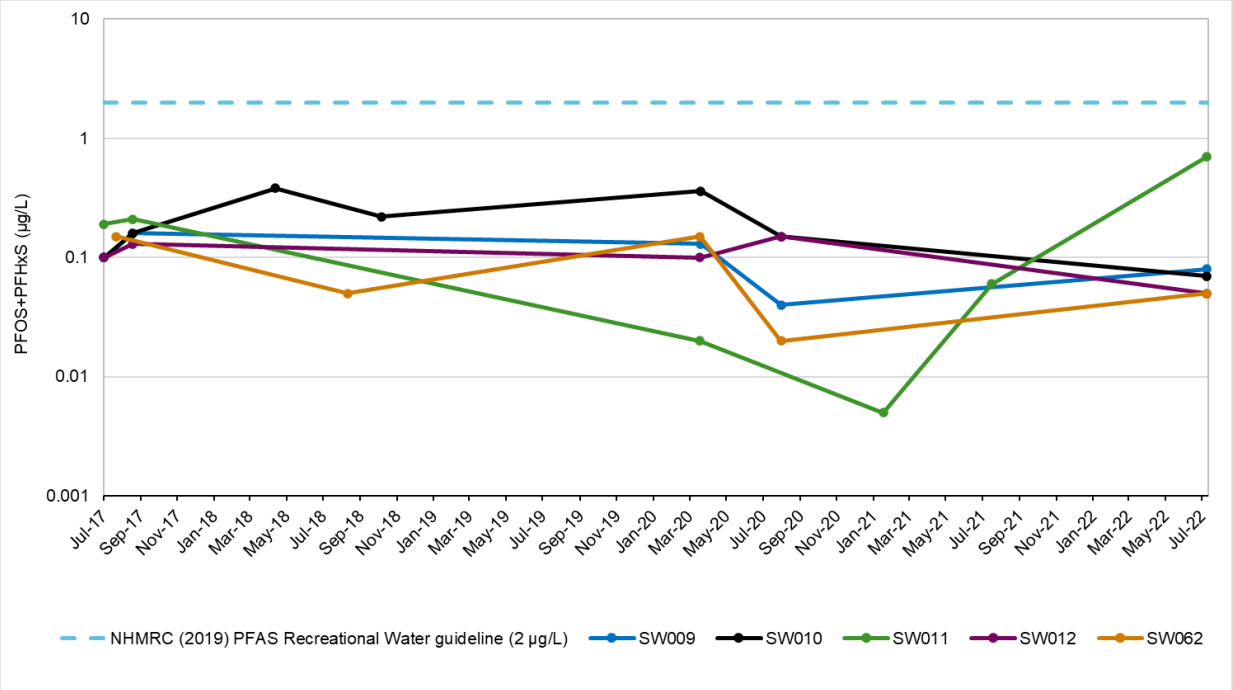


Figure 35 Helps Road Drain (off-Base) surface water PFOS+PFHxS concentration trends*

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

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

Three surface water locations, SW058, SW059 and SW078, capture the conditions of the surface water in the Kaurna Park Wetland (off-Base). Analytical results are summarised in **Table 25** and PFOS+PFHxS trends are illustrated in **Figure 36**. For graphical purposes where concentrations are reported below the LOR, the concentrations are represented as half the LOR (i.e. 0.005 µg/L). Results are summarised below:

- All sampled Kaurna Park Wetland (off-Base) locations reported PFOS+PFHxS and PFOA concentrations below the adopted guidelines for the 2022 monitoring round.
- All results for the 2022 monitoring round were below the laboratory LOR for PFOS+PFHxS and PFOS, with the exception of PFOS+PFHxS (0.08 µg/L) and PFOS (0.06 µg/L) in SW058, which was consistent with historical ranges.
- With the exception of SW058, concentrations of PFOS+PFHxS and PFOS and PFOA were reported at lower concentrations in 2022 than in 2021 for the respective wet season monitoring round.

Table 25 Kaurna Park Wetland (off-Base) PFAS summary results (µg/L)

Location ID	Analyte	Historical range (2017-2021)		OMP Monitoring
		Min	Max	July 2022
SW058	PFOS+PFHxS	0.04	0.40	0.08
	PFOA	ND	0.08	ND
	PFOS	0.04	0.26	0.06
SW059	PFOS+PFHxS	ND	0.27	ND
	PFOA	ND	0.02	ND
	PFOS	ND	0.23	ND
SW078	PFOS+PFHxS	ND	0.06	ND
	PFOA	ND	ND	ND
	PFOS	0.01	0.06	ND

ND = Not detected above laboratory limits of reporting

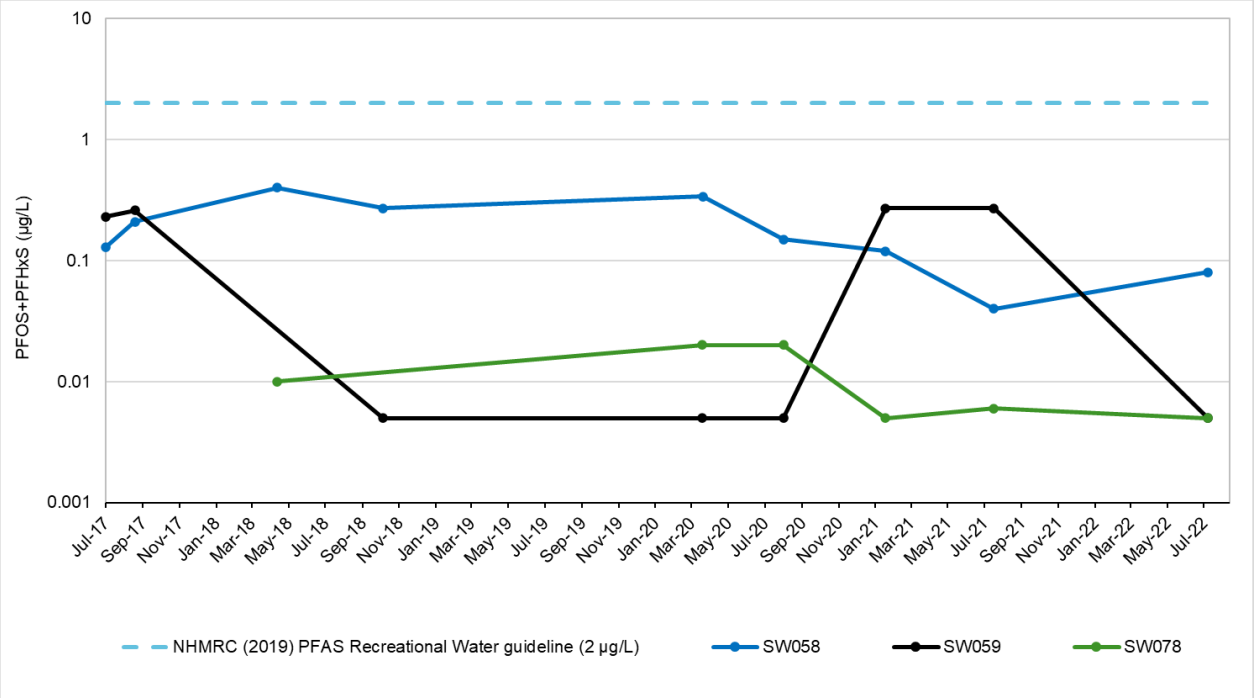


Figure 36 Kaurna Park Wetlands surface water PFOS+PFHxS concentration trends*

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

8.0 Interpretive analysis

In addition to monitoring period data, historical data from 2017 – 2021 was included in the assessment to analyse temporal trends, and the site setting as outlined in **Section 2.0** was considered with regards to interpretation of the results. The historical data was obtained from the following reports:

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

Interpretive analysis is conducted to identify changes in locations and/or concentrations of PFAS throughout the monitoring area utilising both quantitative and qualitative data. For groundwater, Mann-Kendall statistical analysis has been utilised to assess the presence or non-presence of trends at individual monitoring locations. Given that the smaller the sample set size available for statistical analysis, the lower the potential accuracy of the statistical analysis results, a minimum of eight data points is typically adopted. The majority of locations for which Mann-Kendall statistical analysis has been applied have at least eight data points; three locations (MW2159, MW2490 and MW2162) have only seven data points to date reflecting a lower level of confidence in the statistical assessment for these locations. For surface water, temporal trend assessment of scatter plots presenting concentrations were carried out.

8.1 Hydrogeology

Historical gauging results since the commencement of the OMP in March 2020 are presented in **Table T1** (**Appendix D**). Over the 2022 monitoring period, there was a small increase in groundwater elevations for the January/February and July 2022 monitoring rounds compared to the respective rounds in 2021, likely due to the above average rainfall experienced. A large increase in groundwater elevations (>1 m) from 2021 to 2022 was observed in several wells:

- MW2272 (Q3), MW2284 (Q4), MW2286 (Q4) in both monitoring rounds
- MW4001 (Q1), MW4045 (Q2) in January/February 2022
- MW4075 (Q4) in July 2022.

Figure A5.3 shows a clear outlier at MW4068 (Q3) at 2.99 mAHD in January 2022, compared to other elevations in the Q3 network, which range from 5.61 mAHD (MW4070) to 11.887 mAHD (MW2270). MW4068 is not an outlier in July 2022 (**Figure A5.7**). Groundwater elevations at MW4068 appear to fluctuate considerably between dry season and wet season (**Figure 37)**. The corresponding Q1 (MW4015) and Q2 (MW4035) wells paired with MW4068 do not appear to be outliers in the inferred contours indicating the localised fluctuation in groundwater elevations is only affecting the Q3 aquifer. The remainder of the Q3 network does not appear to be significantly impacted as seen in **Figure 37**. Historically MW4068 and to a lesser extent MW4073 has reported significant fluctuations during the post summer investigations. JBS&G (2023) reported that significant fluctuations in groundwater elevations are effected primarily by localised anthropogenic factors rather than seasonal variability.

Operational irrigation bores are in use within approximately 300m of MW4068, as shown in the registered groundwater bore search from the WaterConnect database (maintained by the Department for Environment and Water), **Appendix G**. Extraction wells in the vicinity of MW4068 may be contributing to its lower groundwater elevations, and higher seasonal variations compared to the remainder of the Q3 network. Furthermore, MW4068 has recorded pH values in the field between 7.75 (January 2022) and 12.17 (July 2020), with values consistently greater than 11. This is indicative of grout contamination, i.e. failure of the well annulus seal, which may be resulting in leaking of the impacted Q2 aquifer into the deeper Q3 well.

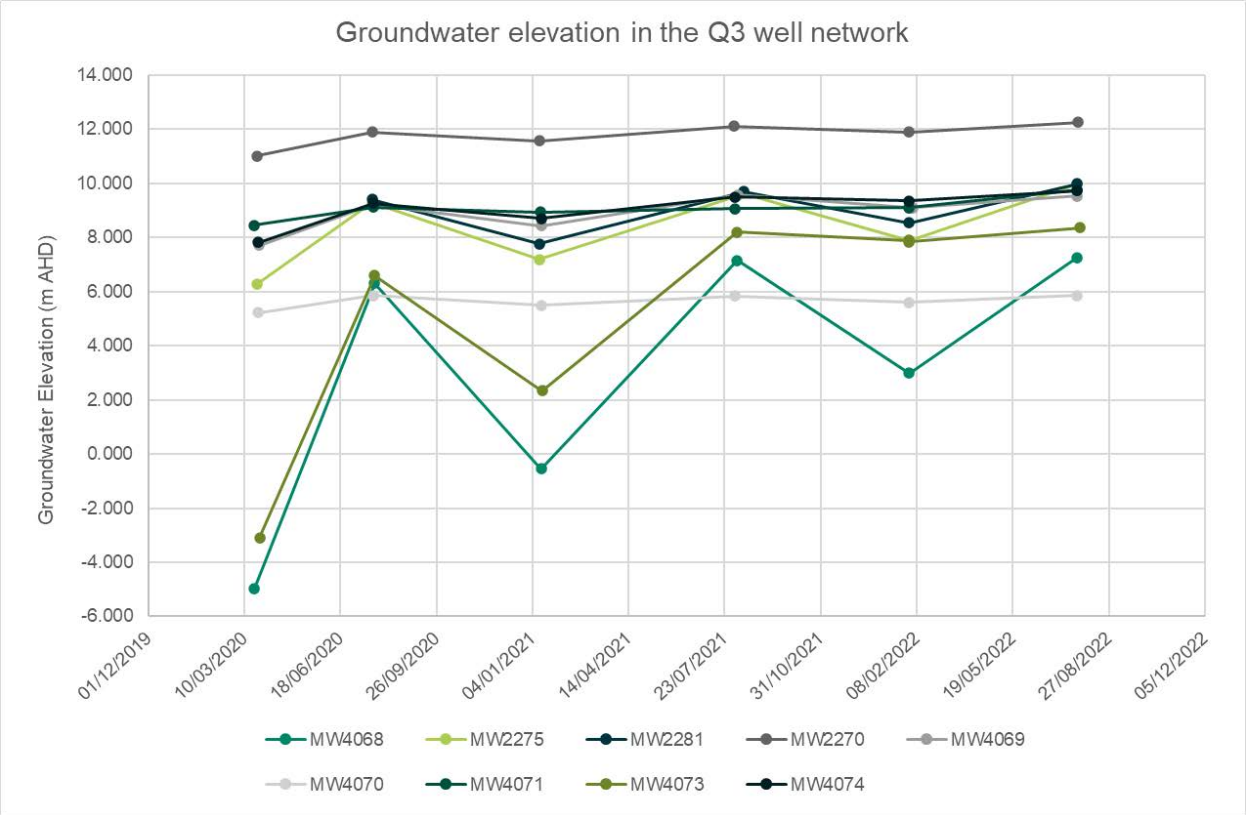


Figure 37 Groundwater elevation in the Q3 well network

8.2 Groundwater results

8.2.1 On-Base groundwater

Results from on-Base groundwater infer that the apparent magnitude and extent of the groundwater plume is consistent with that inferred from previous results (JBS&G, 2018).

Consistent with historical results, the highest concentrations of PFAS identified in groundwater on-Base are located near source area P11 (MW2116 and MW2203). Concentrations at the majority of source areas remain within historical ranges and are considered stable, with the exception of source areas P1, P9 and P16. This broadly indicates that there are no ongoing or new releases of PFAS contamination, but that PFAS may still be mobilising to groundwater in certain areas.

New minimum concentrations were reported at locations throughout the site, notably within the Q1 aquifer in proximity to remediation projects. Source areas P1, P3B, P4, P10, P11 and P16 reported one or more monitoring wells with new minimum concentrations during the 2022 investigation. Source areas P4, P10, P11 and P16 have all undergone soil washing and immobilisation with the addition of GAC and installation of a GCL, which is a potential contributor to the new minimum concentrations in shallow monitoring wells.

8.2.1.1 Statistical analysis

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

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

- A confidence factor over 95% indicates that there is an increasing or decreasing trend.

- A confidence factor over 90% indicates the there is a ‘probably increasing’ or ‘probably decreasing’ trend.
- A confidence factor less than 90% indicates ‘Stable’ or ‘No trend’.

Results for locations selected for Mann-Kendall analysis are shown in **Appendix E** and results are shown in **Table 26**. Locations with potential or probably increasing or decreasing trends for PFOS+PFHxS and PFOA are depicted on **Figure 4.17** and **Figure 4.18**, **Appendix A** respectively.

Table 26 Mann-Kendall analysis for on-Base locations

Location	Analyte	Probably increasing trend (<95% and ≥90% confidence)	Increasing trend (>95% confidence)	Probably decreasing trend (<95% and ≥90% confidence)	Decreasing trend (>95% confidence)
Source area P4	PFOS+PFHxS	-	-	MW2411 (Q1)	MW2358 (Q1) MW2126 (Q2) MW2162 (Q2)*
	PFOA	-	-	-	MW2358 (Q1) MW2162 (Q2)
Source area P9 and P15A/B, P11, P16 and P21	PFOS+PFHxS	MW2188 (Q1)	MW2158 (Q2) MW2270 (Q3) MW2272 (Q3) MW2284 (Q4)	MW2150 (Q1) MW2197 (Q1) MW2203 (Q1)	MW2112 (Q1) MW2116 (Q1) MW2120 (Q1) MW2200 (Q2) MW2201 (Q1)
	PFOA	-	MW2158 (Q2) MW2272 (Q3) MW2284 (Q4)	-	MW2112 (Q1) MW2120 (Q1) MW2200 (Q2) MW2203 (Q1) MW2150 (Q1)
Source areas P1, P3A, P3B and P27	PFOS+PFHxS	-	MW2114 (Q1)	-	MW2130 (Q1) MW2157 (Q2)
	PFOA	-	MW2114 (Q1)	-	MW2130 (Q1)
Southern, western and northern boundary	PFOS+PFHxS	-	MW2183 (Q2) MW2185 (Q2)	MW2129 (Q1) MW2175 (Q1) MW2177 (Q1) MW2184 (Q1)	MW2139 (Q1) MW2172 (Q1) MW2180 (Q1) MW2501 (Q1)
	PFOA	-	MW2183 (Q2) MW2185 (Q2)	MW2177 (Q1) MW2180 (Q1)	MW2129 (Q1)

*Seven data points were used to generate trend data, lower accuracy applies

The remaining on-Base locations selected for Mann-Kendall analysis indicated a stable trend for PFOA (MW2116, MW2137, MW2149, MW2193, MW2197, MW2528) or PFOS+PFHxS (MW2131, MW2148, MW2149, MW2182, MW2194, MW2490, MW2528, MW2173, ,) or no trend for PFOA (MW2131, MW2148, MW2188, MW2499, MW2218, MW2157,) or PFOS+PFHxS (MW2134, MW2193, MW2394, MW2499, MW2285), as shown in **Appendix E**.

Note: Statistical analysis performed on wells MW2159, MW2490 and MW2162 was based on less than eight rounds of data and hence provide lower accuracy. Seven rounds of data were used for the three monitoring wells stated.

8.2.1.2 Seasonal variation

Concentrations of PFOS+PFHxS at on-Base groundwater monitoring locations show minor fluctuation, however, no overall seasonal influence on concentrations of PFOS+PFHxS is apparent aside from locations within source areas where higher groundwater levels saturate source area soils leading to potentially higher rates of PFAS mobilisation from contaminated soils. Standing water levels and PFOS+PFHxS concentrations for selected wells are presented in **Appendix F**. There does not appear to be any evident relationship between groundwater elevation and PFAS concentrations across on-Base monitoring wells; as such it is not conclusive that the observed fluctuations are attributable to seasonal influences. Additional data collected in future monitoring events will be reviewed and if seasonal responses are apparent, where appropriate, Mann-Kendall tests will be performed on seasonally filtered data.

8.2.1.3 Potential increasing trends

Although concentrations of PFOS+PFHxS and PFOA at on-Base locations mostly remain within historical ranges, or show decreasing trends, several monitoring locations in source areas P1, P9 and P16, as well as along the southern boundary reported the highest concentrations to date in 2022. One new exceedance of the adopted criteria for PFOS+PFHxS was also reported at MW2202 (Q2) in source area P16. Apparent increasing trends for PFAS in groundwater both at source areas and at downgradient boundary locations suggest PFAS may still be mobilising to groundwater beneath the Base, with groundwater transport from these source areas potentially responsible for the increased concentrations at the Base boundaries. Increases in concentrations at these locations may also be due to the higher-than average rainfall experienced in 2022, leading to slightly higher groundwater elevations, with groundwater interacting with higher volumes of contaminated soil. All wells that reported an increasing or potentially increasing trend have seen an increase in groundwater elevations of over 1 m since the OMP implementation in March 2020.

Monitoring locations MW2158 (Q2), MW2272 (Q3) and MW2284 (Q4) in the P9 source area were identified as having an increasing trend for PFOS+PFHxS and PFOA by Mann-Kendall analysis. These wells are adjacent to extraction wells related to the Enviropacific groundwater remediation works within this area. The extraction wells target the Q2 aquifer and groundwater elevation logging data from 2019 to 2020 showed that extraction activity from the Q2 aquifer did not generate drawdown in the Q3 aquifer (AECOM, 2020c). There was no groundwater elevation data collected for the Q4 aquifer; it is not apparent that pumping activities are directly affecting the Q3 and Q4 aquifers.

Data collected to date from MW2272 has indicated pH ranging from approximately 10 to 12 and historical results for major ions reported for this location are elevated for calcium and hydroxide alkalinity (AECOM, 2021c). The remaining Q3 wells in the network with historical major ion data (MW2270, MW2281 and MW4069) reported calcium, hydroxide alkalinity at an order of magnitude less than MW2272 and reported a pH range of 7 to 9. These results may be indicative of grout contamination, i.e. failure of the well annulus seal, such that increasing trends for PFAS at this location may indicate that impacted Q2 groundwater is percolating into the deeper aquifers. The P9 source area was also subject to soil remediation works by Ventia in 2022. As discussed in **Section 6.2**, P9 was subject to flooding during excavation works. There is potential for these excavations and flooding to have impacted the July 2022 results. Furthermore, both MW2272 (Q3) and MW2284 (Q4) have seen a large increase in groundwater elevations, increasing approximately 4 m since the OMP began in March 2020. It is possible the increased groundwater levels are mobilising PFAS from shallow contaminated soils in areas where groundwater has previously had less frequent direct interaction. PFAS concentrations in downgradient Q3 and Q4 monitoring locations (i.e. MW2281 and MW2286) are generally stable (or have no trend) and as such, the increasing statistical trends noted at MW2272 and

MW2284 appear to be localised, however, does not preclude the potential for migration downgradient in the future to boundary and off-Base locations.

Mann-Kendall analysis for PFOS+PFHxS at MW2270 (Q3) in source area P16 indicated an increasing trend for PFOS+PFHxS. Paired wells MW2120 (Q1) and MW2200 (Q2) both reported decreasing trends, although with concentrations remaining one to two orders of magnitude greater than those at MW2270. It is possible the increase in Q3 well MW2270 may be from leakage from the Q2 aquifer into the Q3. Further monitoring may confirm this trend.

In the 2021 report, it was noted that one on-Base location, MW2210 (Q2), reported a new maximum concentration of PFOS+PFHxS but did not meet the criteria for Mann-Kendall analysis, and it was concluded that this should be reviewed following the 2022 monitoring events to properly assess trends. Mann-Kendall analysis for MW2210 including the 2022 data was reported as having no trend, attributable to the most recent (July 2022) concentrations being the lowest since monitoring commenced, contrary to the earlier apparent trend.

While not demonstrating a trend, the July 2022 result for Q1 well MW2499 and Q2 MW2209 also indicated close to an order of magnitude increase over historical results for PFOS+PFHxS. Both locations are within identified source areas and the increase in concentration is likely attributed to interactions of PFAS impacted soils and groundwater leading to PFAS mobilisation.

Further data collection is required to validate these trends. The results currently do not suggest a change to the overall understanding of the nature or distribution of PFAS impacts beneath the Base or associated risks.

8.2.1.4 Potential decreasing trends

As noted in **Section 6.2**, interim PFAS management measures have been implemented at multiple locations across the site in the attempt to reduce over PFAS mass from groundwater and soil. One or more monitoring wells in the vicinity of source area P4, P9, P15A/B, P11, P16 and P21 reported decreasing or probably decreasing trends. Of the 12 wells that reported decreasing trends, 10 of them were reported in the Q1 aquifer, potentially indicating that the remediation project is positively affecting the Q1 aquifer. The remaining on-Base wells indicated a stable trend or no trend. Additional monitoring through the continuation of the OMP monitoring events will confirm any potential decreasing trends at off-Base monitoring locations and confirm if any significant changes to the plume mass or extent are occurring.

8.2.2 Off-Base groundwater

PFAS concentrations observed at monitoring wells at off-Base locations were consistent with historical results and were lower than those observed within on-Base source areas, consistent with the PFAS groundwater plume.

Exceedances of the PFAS NEMP 2.0 (HEPA, 2020) Human Health Drinking Water (0.07µg/L) guideline for PFOS+PFHxS at off-Base locations were consistent in magnitude and location with historical exceedances. One new exceedance of the adopted criteria for PFOS+PFHxS was reported at MW4074 (Q3). MW4074 is located in the southeast portion of the Management Area and along Bolivar Road and is the most downgradient Q3 monitoring well in this part of the Management Area. As such, there are currently no further monitoring locations downgradient to track PFAS movement within the Q3 aquifer in this area. While PFAS has been intermittently detected at MW4074 since 2019, an increasing trend may be emerging in this area indicating possible plume migration within the Q3 aquifer.

8.2.2.1 Statistical analysis

Mann-Kendall analysis was undertaken on monitoring wells with seven or more data points, representative of dry season and wet season conditions, to identify any initial overall increasing or decreasing trends in PFOA and PFOS+PFHxS. Mann-Kendall analysis is shown in **Appendix E** and results are shown in **Table 27** below.

Table 27 Off-Base Mann-Kendall analysis results

Location	Analyte	Probably increasing trend (<95% and ≥90% confidence)	Increasing trend (>95% confidence)	Probably decreasing trend (<95% and ≥90% confidence)	Decreasing trend (>95% confidence)
Southern, western and northern boundary	PFOS+PFHxS	-	-	-	MW4013 (Q1)
Helps Road drain	PFOS+PFHxS	-	-	MW4015 (Q1) MW4053 (Q1)	MW4001 (Q1) MW4045 (Q2) MW4048 (Q2)
	PFOA	-	-	-	MW4015 (Q1) MW4048 (Q2)
Off-Base lateral extent	PFOS+PFHxS	-	-	MW4023 (Q1)	MW4052 (Q1)
	PFOA	-	-	-	-
Proximity to licensed groundwater users	PFOS+PFHxS	-			MW4057 (Q1) MW4066 (Q2) MW4069 (Q3)
	PFOA	-	-	MW4069 (Q3)	MW4066 (Q2)

The remaining off-Base locations selected for Mann-Kendall analysis indicated a stable trend for PFOA (MW4013, MW4053, MW4057, MW4035, MW4068) or PFOS+PFHxS (MW4003, MW4068, MW4073) or no trend for PFOA (MW4003, MW4073) as shown in **Appendix E**.

8.2.2.2 Seasonal variation

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

8.2.2.3 Potential increasing trends

Although MW4074 (Q3) did not qualify for Mann-Kendall analysis, MW4074 reported a new guideline exceedance of PFOS+PFHxS in January 2022. Concentrations of PFOA at MW4074 remain below the laboratory LOR. This location is the farthest eastern downgradient monitoring location within the Q3 aquifer network and lateral plume migration may be occurring in this area. If plume migration is occurring in this area there are currently no monitoring locations within the OMP monitoring network that track PFAS south or east of MW4074. Monitoring location MW4074 is identified as having proximity to a licensed groundwater user. PFAS concentrations at MW4074 do not appear to be seasonally influenced. Additional monitoring through the continuation of the OMP monitoring events will confirm any potential trends at this location.

8.2.2.4 Potential decreasing trends

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

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

8.3 Surface water

8.3.1 On-Base surface water

The PFOS+PFHxS and PFOA concentrations reported in 2022 for on-Base surface water locations were consistent with the historical results and were below the NHMRC (2019) PFAS Recreational Water guideline values of 2 µg/L for PFOS and PFHxS, and 10 µg/L for PFOA. The HEPA (2020) PFAS NEMP 2.0 (HEPA, 2020) Freshwater 95% Species Protection guideline was exceeded for PFOS at SW019, consistent with historical data.

No first-time detections or new exceedances were reported in 2022. Concentrations at several locations, including SW006, SW017, SW018, SW021 and SW028 were lower than concentrations reported in 2021. Slight decreases in the 2022 data compared to 2021 are potentially attributable to the higher-than-average rainfall observed in 2022, potentially diluting up-stream surface water concentrations.

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

8.3.2 Off-Base surface water

Surface water monitoring locations off-Base reported results within the historical range, with the exception of SW011, which reported a new maximum value for PFOS, and a first-time detect for PFOA.

The PFOS+PFHxS concentrations reported for off-Base surface water locations were in all cases below the NHMRC (2019) PFAS Recreational Water guideline (2 µg/L). All concentrations for off-Base locations were also below the HEPA (2020) Freshwater 95% Species Protection guideline value for PFOS and PFOA (0.13 µg/L and 220 µg/L), except for PFOS in SW011.

Off-Base surface water location SW011 is located along Helps Road Drain adjacent the Kaurna Park Wetlands. PFOS concentrations of a similar magnitude were reported at this location in 2017. Upgradient locations SW010 and SW058 did not report concentrations of PFOA above the laboratory LOR in 2022, although there have been historical PFOA concentrations above the LOR. SW010 and SW058 also reported decreased PFOS+PFHxS concentrations in 2022 compared to 2021. The impact at SW011 is delineated by down-stream location SW078, which reported concentrations of all PFAS analytes below the laboratory LOR. The planned monitoring rounds in 2023 will inform if these elevated concentrations at SW011 are indicative of an increasing trend.

Results for all other locations were within the historical range or slightly decreased and suggest that off-Base surface water conditions appear stable. Slight decreases in the 2022 data compared to 2021 are also potentially attributable to the higher-than-average rainfall observed in 2022, potentially diluting up-stream surface water locations.

9.0 Discussion

9.1 Conceptual site model

The CSM was developed during the investigation and human health risk assessment stages (JBS&G, 2018; JBS&G, 2019a; JBS&G, 2019b) and summarised in the PMAP (Defence, 2019). The CSM summarises the linkages between sources, exposure pathways and receptors.

The OMP monitoring over the monitoring period January 2022 to July 2022 discussed in this report has provided additional data to further understand the nature and extent of PFAS concentrations in groundwater and surface water. Key observations included:

- PFAS concentrations were within historical ranges or within an order of magnitude of historical results. The concentration range reported for groundwater and surface water monitoring locations for the monitoring period are shown in Figure A4.1 through A4.17 (Appendix A).
- Mann-Kendall trend analysis of groundwater monitoring data from different locations indicated variable trends, including stable, decreasing, increasing or inconclusive trends. Increasing trends were identified at the following on-Base locations:
    - MW2284 (PFOS+PFHxS and PFOA), MW2158 (PFOS+PFHxS and PFOA), and MW2272 (PFOS+PFHxS and PFOA) at source area P9: While not demonstrating a trend, the July 2022 result for Q1 well MW2499 also indicated an order of magnitude increase over historical results for PFOS+PFHxS. Remediation works were conducted at source area 9 during 2022 that included excavation of PFAS impacted soils, soil washing, and PFAS immobilisation and reinstatement utilising GAC. Remediation works should eventually decrease PFAS concentrations in source area 9 wells. Ongoing monitoring will be required to determine if remediation efforts decrease PFAS concentrations in the area and subsequently result in stabilising or decreasing PFAS concentration trends.
    - MW2188 (PFOS+PFHxS) downgradient of source area P21: Observed increases in PFAS concentrations in MW2188 are within an order of magnitude of the previous recorded high PFAS concentrations from this same location. Ongoing monitoring will be required to determine if an increasing trend continues at the location or if other upgradient remediation efforts reduce PFAS concentrations recorded at this location.
    - MW2270 (PFOS+PFHxS and PFOA) at source area P16: Remediation works were conducted at source area 16 during 2022 that included excavation of PFAS impacted soils, soil washing, and PFAS immobilisation and reinstatement utilising GAC. Remediation works should eventually decrease PFAS concentrations in source area 9 wells. Ongoing monitoring will be required to determine if remediation efforts decrease PFAS concentrations in the area and subsequently result in stabilising or decreasing PFAS concentration trends.
    - MW2114 (PFOS+PFHxS and PFOA) at source area P1: This monitoring location continues to exhibit an increasing PFAS concentration trend, with new maximum concentrations reported every year since 2020. While no direct correlation has been identified to explain the increasing PFAS concentrations recorded at this location, it is noted that corresponding groundwater levels have been higher with each successive sampling event since 2020, with the exception of January 2021, which had a marginally lower groundwater elevation than July 2020, with regularly higher groundwater elevations recorded since and may indicate increased interaction between PFAS impacted soils and groundwater leading to higher rates of PFAS mobilisation. Continued monitoring of groundwater elevation and PFAS concentrations will need to be conducted to determine if this potential correlation continues. Monitoring will also permit observation of any emerging trends for Q2 well MW2209 where July 2022 results for PFOS+PFHxS were an order of magnitude higher than mean historical concentrations.
    - MW2183 (PFOS+PFHxS and PFOA) and MW2185 (PFOS+PFHxS and PFOA) at the Base boundary: Low concentrations of PFAS are detected in Base boundary wells above the drinking water criteria. While off-Base downgradient monitoring locations suggest decreasing trends, increasing trends at some source areas and along the Base boundary would suggest concentrations off-Base would begin to stabilise and potentially increase slightly over time.

Continued monitoring will need to be conducted to determine if increasing trends observed on-Base and along the Base boundary contribute to increased concentrations at downgradient off-Base areas.

- All off-Base groundwater locations that qualified for statistical analysis reported potentially decreasing trends, stable concentrations or no trend, and statistical analysis performed on locations with proximity to identified users registered on the Water Connect database (2022) indicated that PFAS concentrations are stable, have no trend or exhibit a decreasing trend, except for MW4074 (Q3) which did not qualify for Mann-Kendall analysis but reported a new exceedance of guidelines. Concentrations of PFAS remain highest in the vicinity of the on-Base source areas, with source areas P3b, P4, P9, P11, P21, and P27 recording the highest PFAS concentrations within the Management Area.
- Concentrations of PFAS in groundwater are generally lower off-Base compared to on-Base areas.

Lateral cross-gradient plume migration may be occurring south beyond MW4074 within the Q3 aquifer system. The extent is currently unknown; however, MW4070 which is southwest and down hydraulic gradient of MW4074 has reported concentrations below laboratory LOR during the previous three investigations. It is unlikely that cross gradient plume migration is occurring beyond the GPA in the Q3 aquifer.

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

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

9.2 Risk profile

Surface water and groundwater data collected during the monitoring period does not suggest a change in the risk profile for on-Base human health receptors. The risk profile is mostly unchanged to off-Base human health receptors associated with exposure to PFAS in groundwater and surface water. The data evaluated in this report does not indicate changes to the nature and extent of PFAS in groundwater and surface water which alter the CSM. This is based on the following assessment of the OMP data.

9.2.1 Groundwater

In most cases, PFAS concentrations in groundwater fall within historical ranges. Potentially increasing trends at on-Base source area locations P1 (MW2114 (Q1)), P21 (MW2188 (Q1)), P16 (MW2270 (Q3)), P9 (MW2272 (Q3), MW2284 (Q4)) and at on-Base boundary locations MW2183 (Q2) and MW2185 (Q2) indicate that mobilisation of PFAS to groundwater, and mobilisation between aquifers is occurring on-Base. Increases in concentrations at these locations are also potentially associated with the higher than average rainfall experienced in 2022, and corresponding higher groundwater elevations. A new exceedance of drinking water guidelines was reported in monitoring well MW2202 (Q2) located in source area P16. This new exceedance is not considered to change the risk profile for on-Base human health receptors, as the well is not located within the vicinity of any drinking water sources.

The nature and extent of PFAS in groundwater off-Base reflects the conditions historically observed and there are no reported changes to the PFAS concentration at downgradient locations which alter the overall human health or ecological risk, with the exception of MW4074, which is located in the vicinity of a registered groundwater user. A review of current use of groundwater in the vicinity of MW4074 concluded that despite this new exceedance at MW4074, a change to the CSM or risk profile is not warranted since the user is no longer able to extract groundwater from their bore since the Stage 1 GPA was established by the EPA in February 2022 (SA EPA, 2022).

The decreasing or potentially decreased trends noted in on and off-Base groundwater concentrations are not considered to be materially significant in terms of risk profile. All wells with a decreasing trend that were initially below human health guidelines remained below guidelines, and the majority of wells with a decreasing trend that were previously above human health guidelines remained above guidelines, with the exception of southern boundary well MW2184 (Q1) and off-Base well MW4052 (Q1).

Southern boundary well MW2184 (Q1) was previously reported to be above the drinking water guidelines for PFOS+PFHxS and as of July 2022 was below the drinking water guideline value. This decrease is not significant enough to warrant a change to the risk profile, as other nearby wells in the same aquifer (MW2137 and MW4013) remain above the drinking water guideline. Further monitoring is required to confirm potential trends in this location.

Off-Base well MW4052 (Q1), in the southern portion of the investigation area previously reported PFOS+PFHxS concentrations above the drinking water guideline, however, was reported below the laboratory LOR in July 2022. This decrease is also not considered significant enough to merit a change to the risk profile, as concentrations have been below the drinking water guideline since March 2020.

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

9.2.2 Surface water

Surface water concentrations at on- and off-Base locations have remained consistent over time and within the historical range. First-time detections and new exceedances of PFAS analytes have been reported at both on- and off-Base surface water sampling locations for the duration of the OMP to date.

It is noted that while concentrations of PFOS at surface water location SW019 remained above the adopted ecological receptor criteria in 2022, the concentrations of PFAS reported at this location, notably for PFOS and PFHxS, are reported up to three orders of magnitude less than historical concentrations reported in 2017. These results do not change the overall risk profile outside of the immediate vicinity of these locations.

9.3 Assessment of current OMP

Based on the above review of the data collected during the monitoring period, there are no significant changes to the understanding of the nature, extent or risks associated with PFAS at the Base or within the management area. The need for monitoring of additional media was not identified nor recommended at this time. It is also understood that no significant OMP updates are required arising from stakeholder engagement or changes in land use.

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

Based on an evaluation of the data presented in this report, an OMP (Defence, 2019) specified trigger was met:

- Analytical results for MW2022 exceed the drinking water guideline, reporting a non-detect and then a concentration of 0.11 µg/L in dry season and wet season 2022 respectively. MW2022 is on-Base and not in the vicinity of any drinking water source, so this new exceedance is not considered to have a material impact on the overall risk profile. Further collection of data in upcoming monitoring rounds will confirm results and any potential trends at this location.
- MW4074 reported concentrations above the PFAS NEMP 2.0 (HEPA, 2020) drinking water guideline also in the July 2022 monitoring round. This exceedance is considered to meet an OMP trigger. A review of this risk profile in this area was conducted and concluded that a potential receptor in the vicinity of this well is no longer able to extract groundwater since the Stage 1 GPA was established by the EPA in February 2022. As such, there is no complete exposure pathway to this receptor, and no change to the risk profile is warranted.

10.0 Conclusion

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

The monitoring conducted over the January 2022 to July 2022 monitoring period is considered to have met the objectives of the SAQP (**Appendix B**) and the overall OMP. The monitoring network is

considered appropriate and sufficient for the program objectives, noting that the furthest down-gradient off-site locations have either currently or historically reported detections of PFOS+PFHxS above the laboratory LOR such that the extent of PFAS impacts to groundwater is not fully delineated by the monitoring well network. However, statistical analysis indicates that potentially decreasing trends of PFAS concentrations are present at these locations. Should increasing trends become apparent at the furthest down-gradient well locations, the addition of delineation wells to the network southwest of these locations would be warranted.

The highest concentrations of PFAS within the groundwater monitoring network are associated with PFAS source areas on-Base and this is consistent with the identified PFAS plume (Defence, 2019).

Statistical analysis of the monitoring results for on-Base groundwater locations suggests that PFAS concentrations are considered stable, noting that potentially increasing trends have been identified in source areas attributed to mobilisation of PFAS impacted soils. Potentially increasing trends have also been identified in Q3 and Q4 aquifers likely attributed to vertical migration between aquifers. Concentrations are expected to decrease with time and as a result of interim remedial works. The reported PFAS results from the 2022 monitoring rounds do not suggest a change to the overall understanding of the nature or distribution of PFAS impacts beneath the Base or associated risks.

PFAS concentrations off-Base are stable or decreasing, with the exception of a new exceedance of drinking water guidelines at MW4074 (Q3). Despite this new exceedance, no change to the risk profile or CSM are warranted, as potential receptors in the vicinity are no longer able to extract groundwater from registered bores due to the establishment of a Stage 1 GPA for the first four quaternary aquifers in February 2022.

11.0 References

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

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

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

AECOM Australia Pty Ltd (AECOM) (2021a). *Sampling Event Factual Report – January and February 2021.* prepared for Department of Defence, 12 October 2021.

AECOM Australia Pty Ltd (AECOM) (2021b). *Sampling Event Factual Report, July and August 2021.* prepared for Department of Defence, 02 November 2021.

AECOM Australia Pty Ltd (AECOM) (2021c). *Annual Interpretive Report 2021, PFAS OMP RAAF Base Edinburgh.* prepared for Department of Defence, 5 December 2022.

AECOM Australia Pty Ltd (AECOM) (2020a). *Sampling Event Factual Report – March and April 2020.* prepared for Department of Defence, 1 May 2020.

AECOM Australia Pty Ltd (AECOM) (2020b). *Sampling Event Factual Report, July and August 2020.* prepared for Department of Defence, 17 September 2020.

AECOM Australia Pty Ltd (AECOM) (2020c). *Technical Memorandum 26 – Aquifer Summary Report.* prepared for Department of Defence, 7 December 2020.

Australian and New Zealand Environment and Conservation Council (ANZECC) & Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000). *Australian and New Zealand guidelines for fresh and marine water quality*.

Australian and New Zealand Environment and Conservation Council (ANZECC) & Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000). *Australian guidelines for water quality monitoring and reporting*.

Bureau of Meteorology (2022). *RAAF Base Edinburgh Climate Statistics*, accessed 7.11.2022.

Department for Environment and Water (2022). WaterConnect, Groundwater Data Online Database, Department for Environment and Water, Government of South Australia, viewed 15.11.2022, www.waterconnect.sa.gov.au

Department of Defence (Defence) (2022). *OMP Annual Interpretive Report Guidance*

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

Department of Defence (Defence) (2016). *Routine Environment Water Quality Monitoring Manual.*

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

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

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

JBS&G (2018). RAAF Base Edinburgh Environmental Investigation of PFAS, Detailed Site Investigation, prepared for Department of Defence, 52234/117,720, 11 December 2018.

JBS&G (2019a). RAAF Base Edinburgh Environmental Investigation of PFAS, Detailed Site Investigation Addendum Report (Rev 0), JBS&G Australia Pty Ltd, July 2019.

JBS&G, (2019b). RAAF Base Edinburgh Environmental Investigation of PFAS, Human Health Risk Assessment (HHRA) and Preliminary Ecological Risk Assessment (PERA) (Rev 0), July 2019.

National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM)

National Health and Medical Research Council (NHMRC) (2019). *Guidance on PFAS in Recreational Water*. August 2019.

National Health and Medical Research Council (NHMRC) (2016). *Australian Drinking Water Guidelines (ADWG)*.

South Australian Environment Protection Authority (SA EPA) (2022). Groundwater Prohibition Areas – Edinburgh, Direk, Burton, Salisbury North, Penfield., Paralowie and Waterloo Corner, viewed 12 December 2022
https://engage.epa.sa.gov.au/edinburgh

Appendix A

Figures

AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 1 2
Kilometre

1:50,000 (when printed at A3)

LEGEND

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources

Base Data: Imagery (c) 2017 ESRI

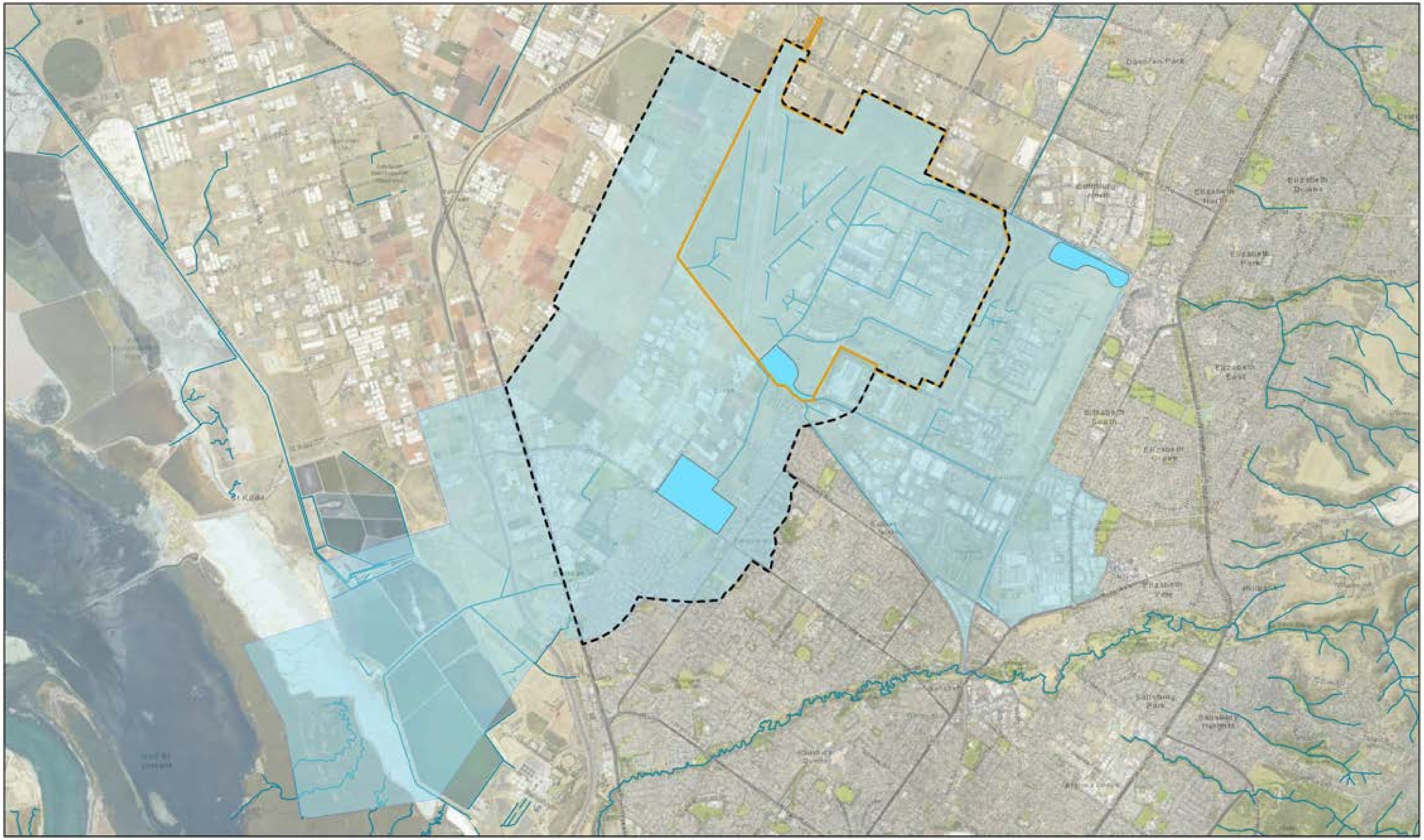
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Management Area

PROJECT ID 606125631
CREATED BY [redacted]
LAST MODIFIED [redacted] 6 OCT 2023
VERSION 1

Figure
A1.1

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:45,000 (when printed at A3)

LEGEND

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP

ANNUAL INTERPRETIVE REPORT

Groundwater Prohibition Area

PROJECT ID 60612581

CREATED BY [redacted]

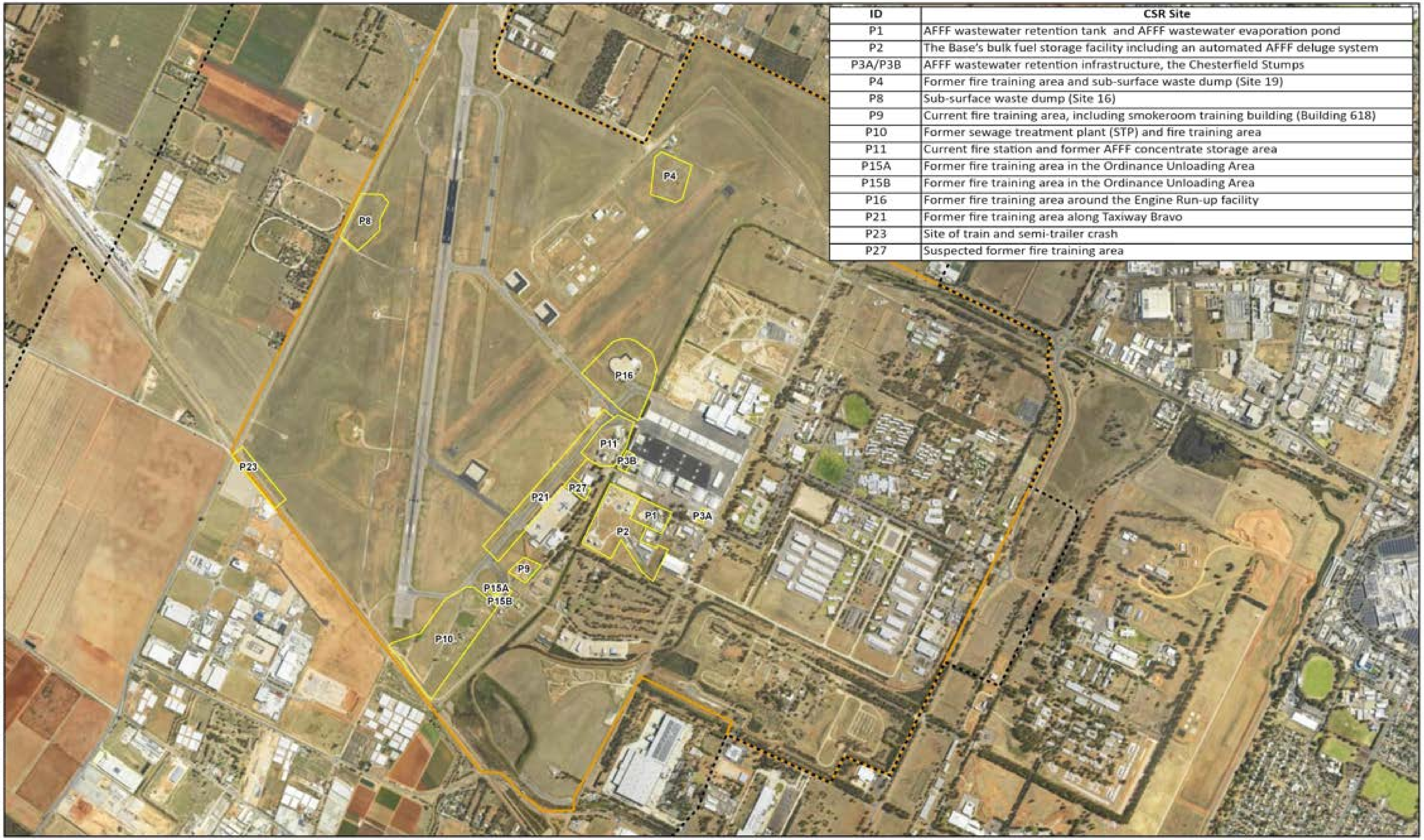
LAST MODIFIED [redacted] OCT 2023

VERSION 1

Figure

A1.2

A3 size



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

AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 100 200 400 600
Metre

1:18,000 (when printed at A3)

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

Data sources:
Base Data: Imagery (c) 2017 ESRI

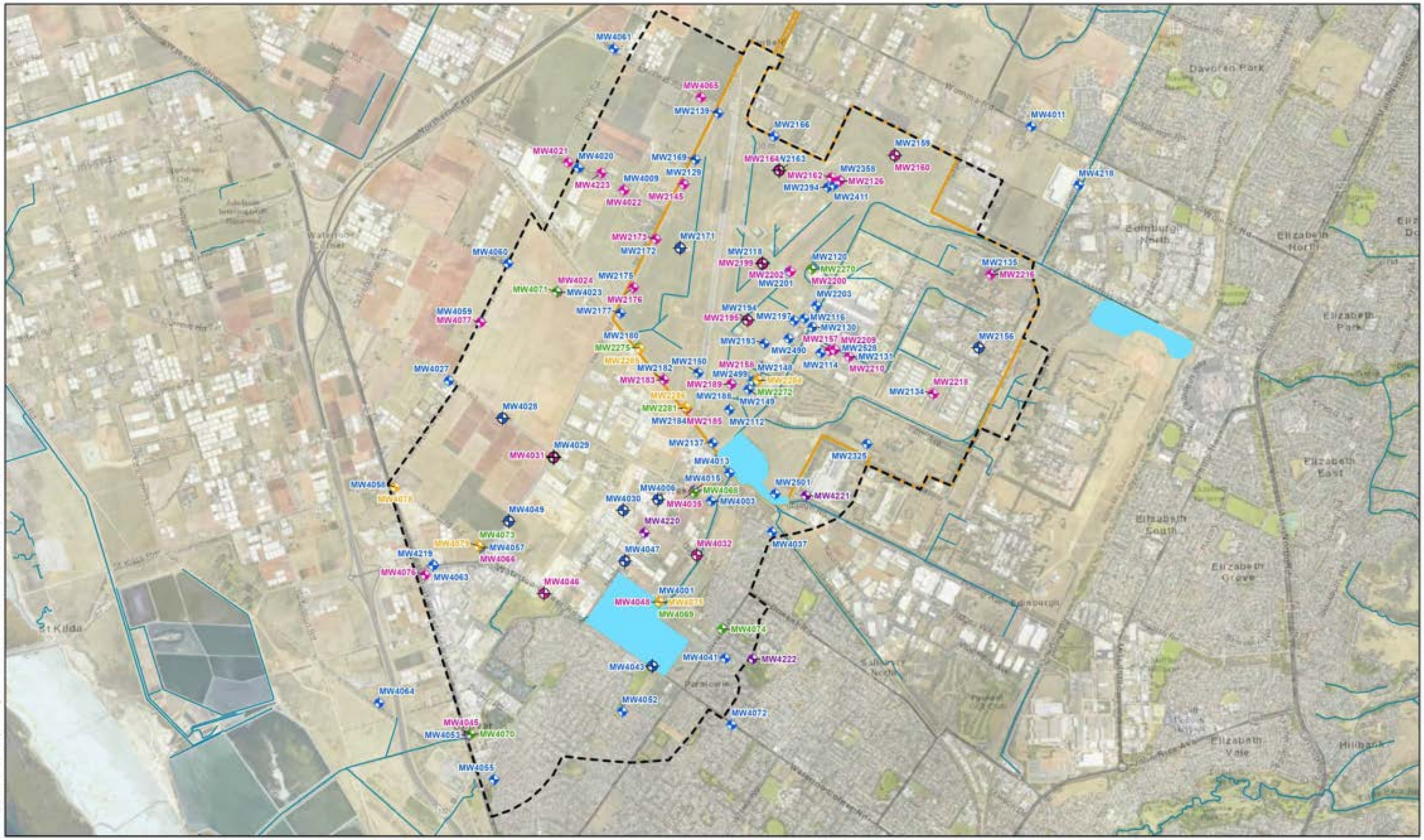
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Inferred PFAS Source Areas

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] 0 JAN 2023
VERSION 1

Figure
A1.3

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

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

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

Groundwater Sample Locations

PROJECT ID: 60612561

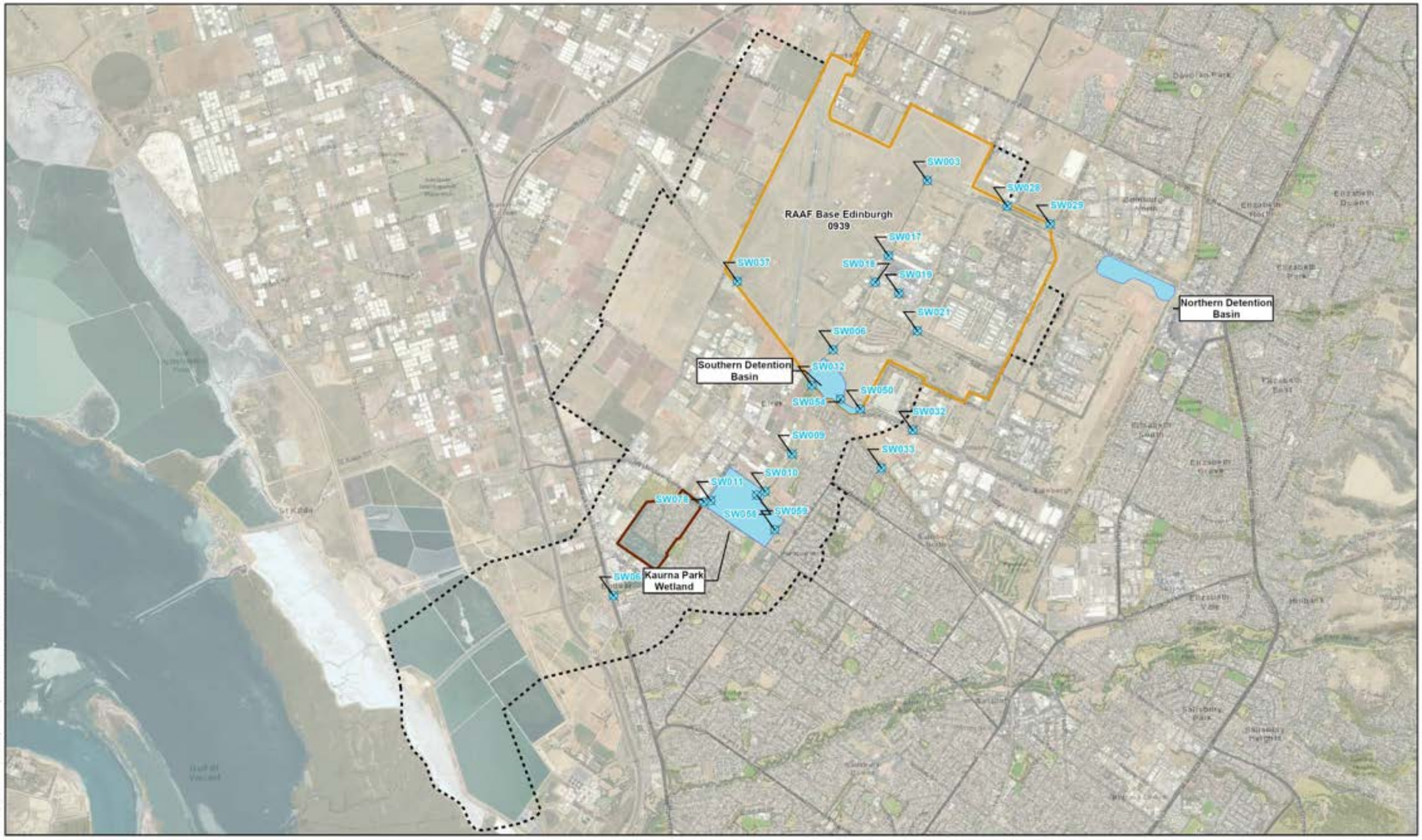
CREATED BY: [redacted]

LAST MODIFIED: 0 JAN 2023

VERSION: 1

Figure A2

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:45,000 (when printed at A3)

Legend

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

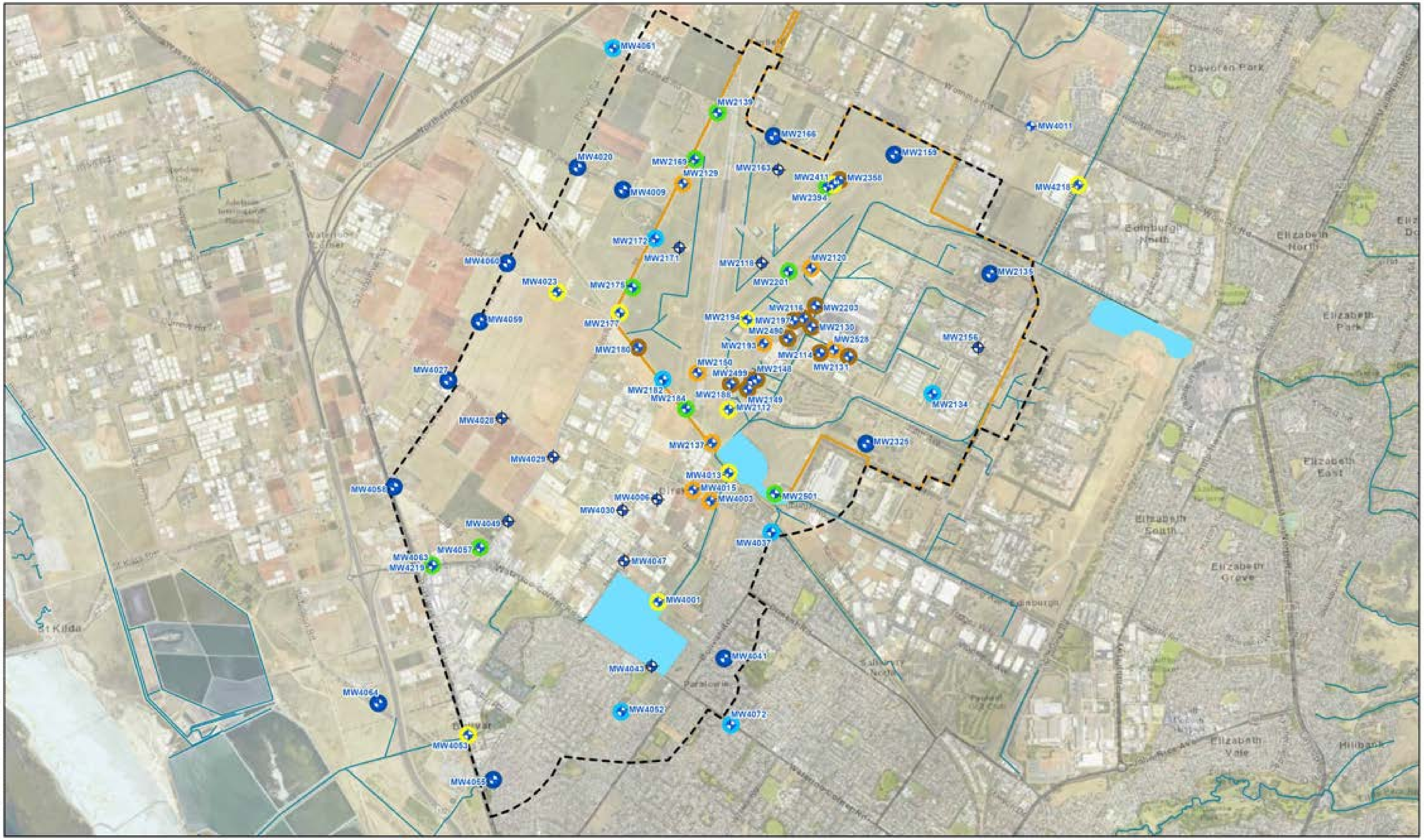
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Surface Water Sample Locations

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] 0 JAN 2023
VERSION 1

Figure
A3

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

Q1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

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

Data sources:
Base Data: Imagery (c) 2017 ESRI

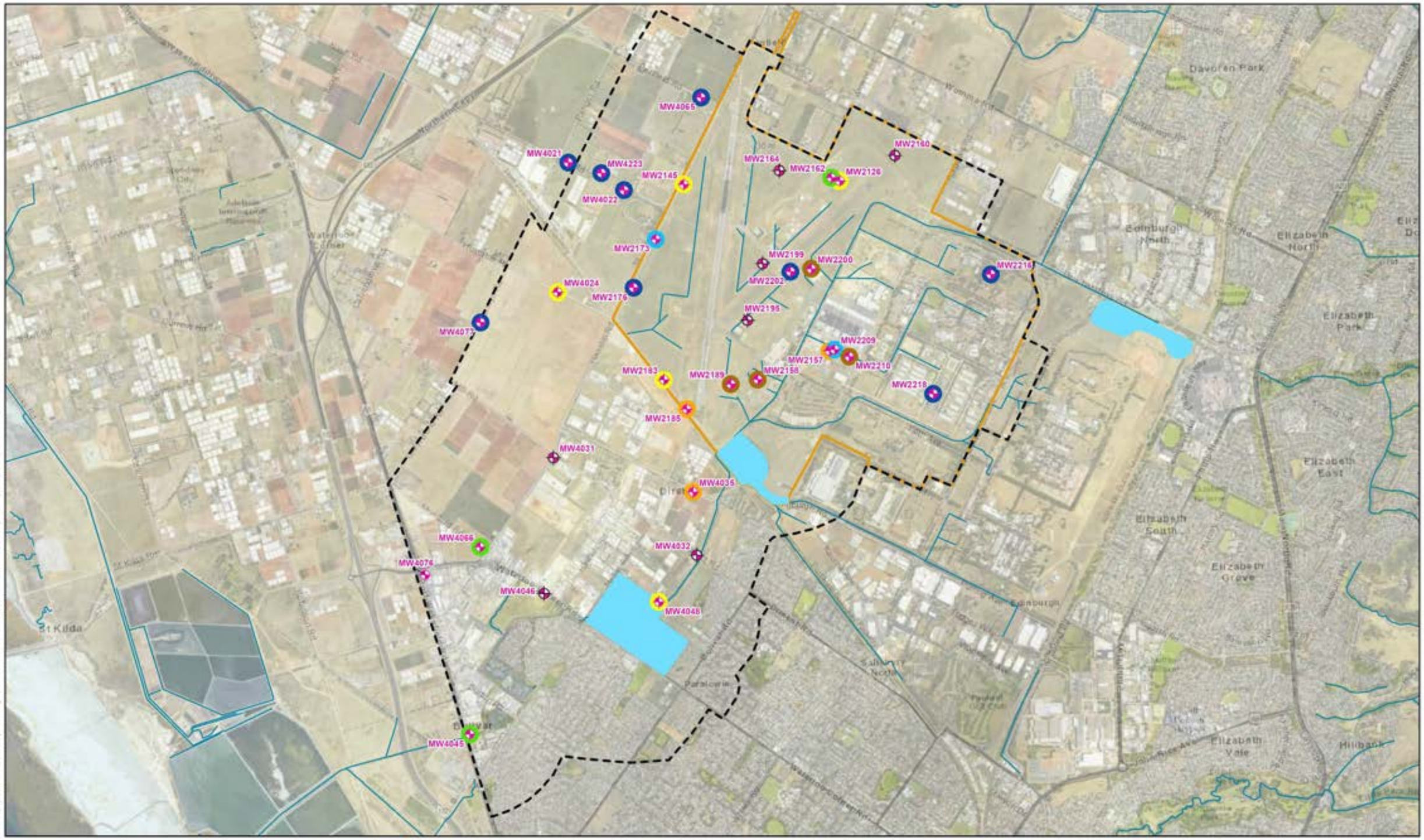
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q1 Aquifer
January/February 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED 3 JAN 2023
VERSION 1

Figure
A4.1

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

Q2 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

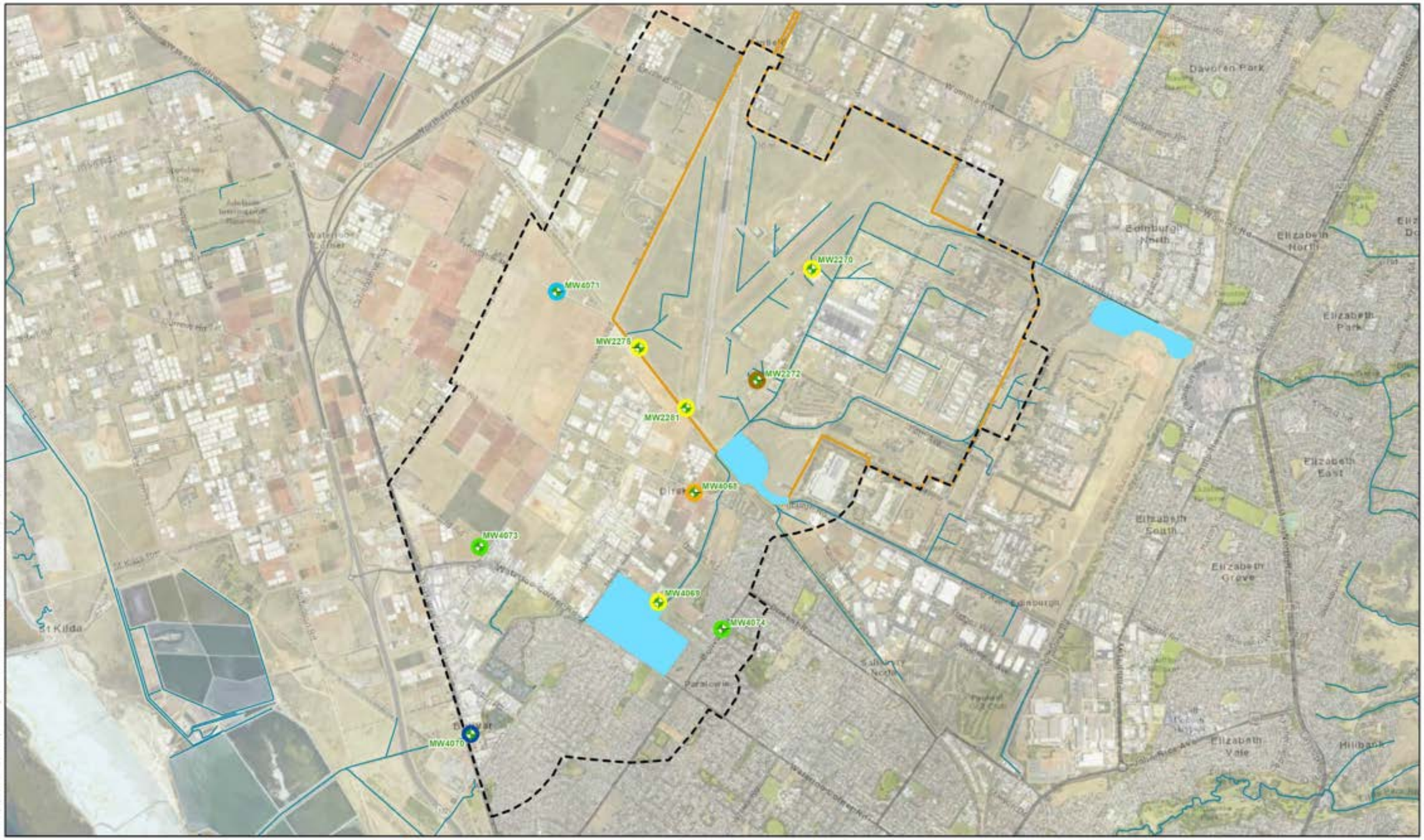
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q2 Aquifer
January/February 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A4.2

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
- Q3 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

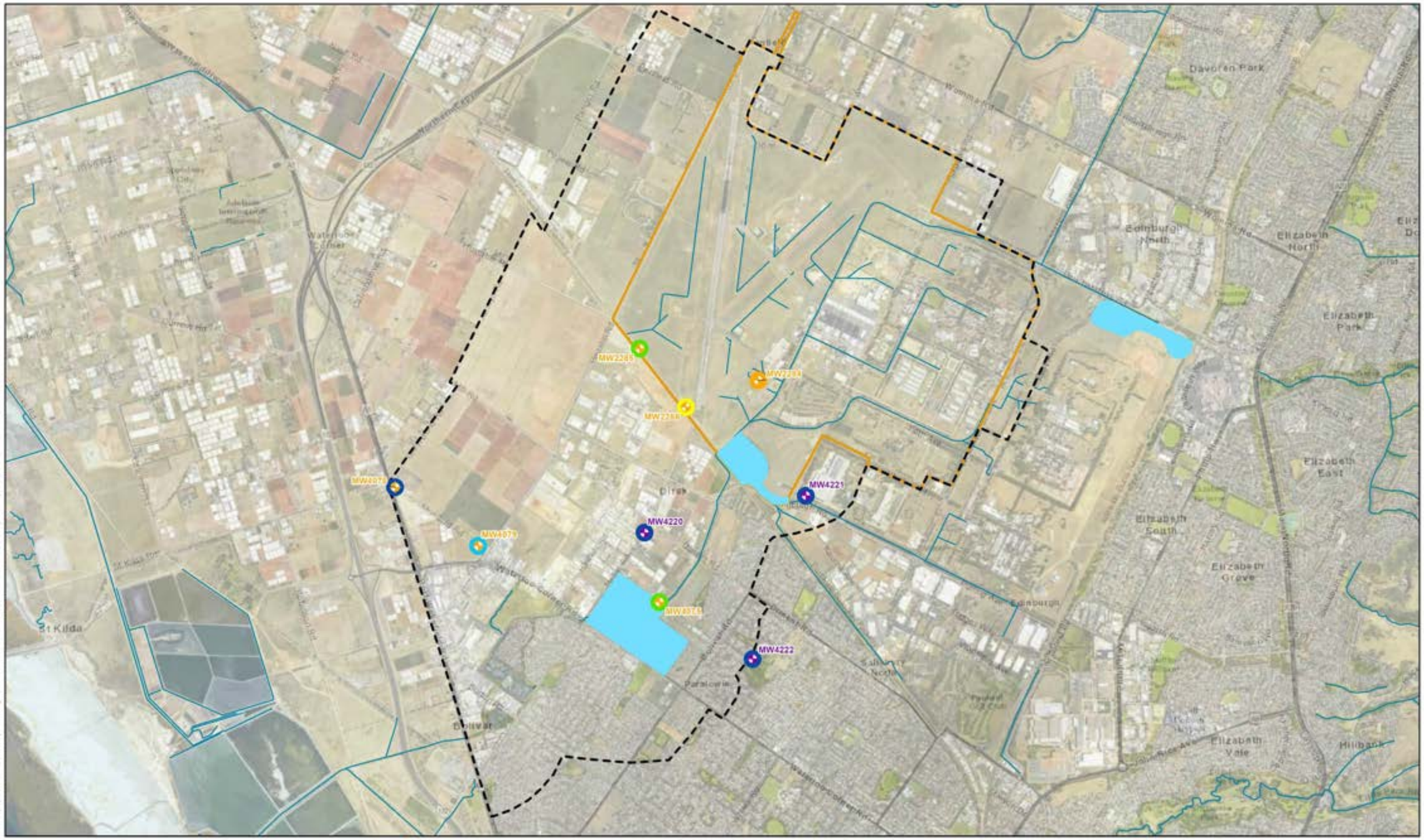
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q3 Aquifer
January/February 2022

PROJECT ID: 60612561
CREATED BY: [redacted]
LAST MODIFIED: 5 JAN 2023
VERSION: 1

Figure
A4.3

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
- Q4 Aquifer
- T1 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q4 and T1 Aquifer
January/February 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A4.4

A3 size

AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

Q1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

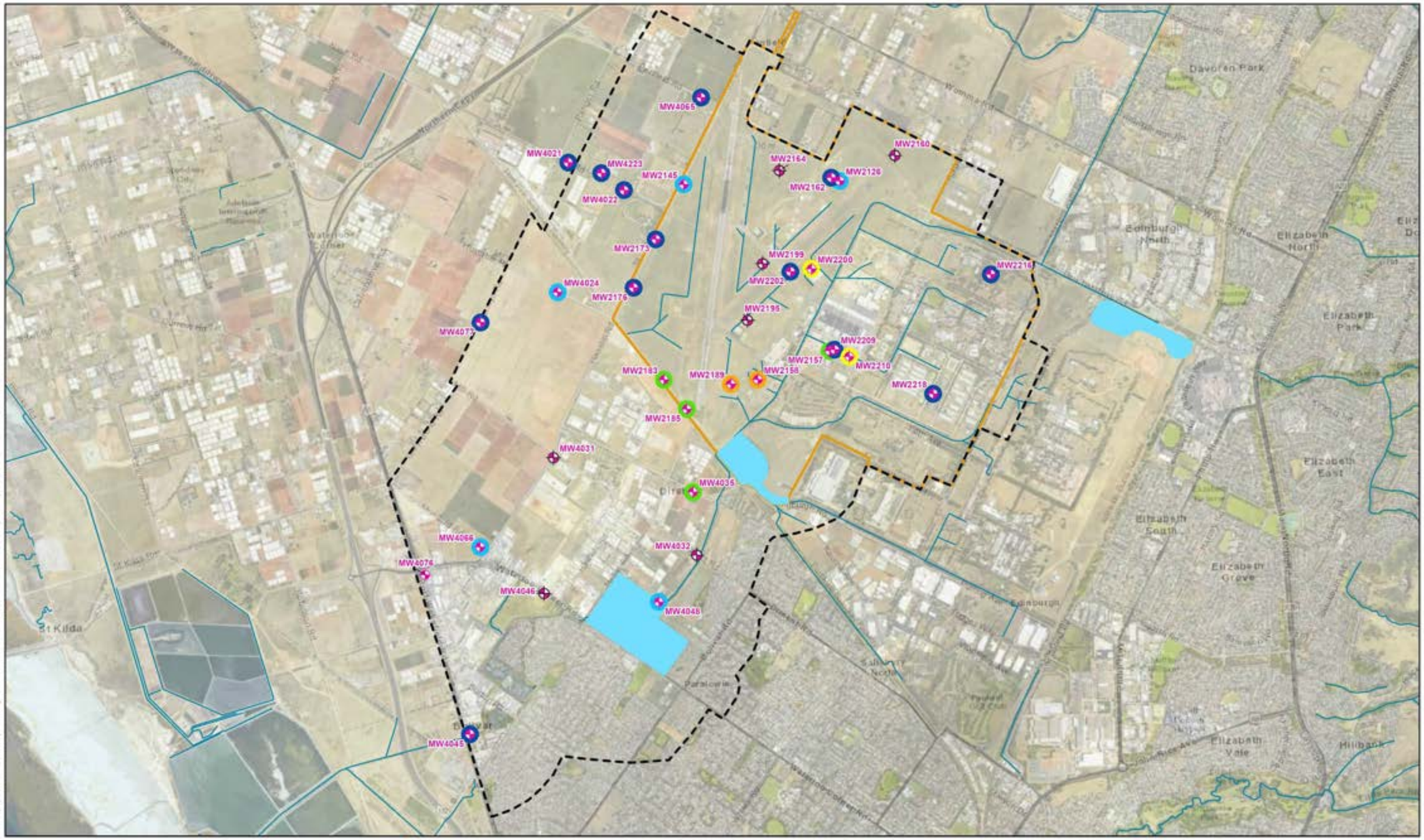
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q1 Aquifer
January/February 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A4.5

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

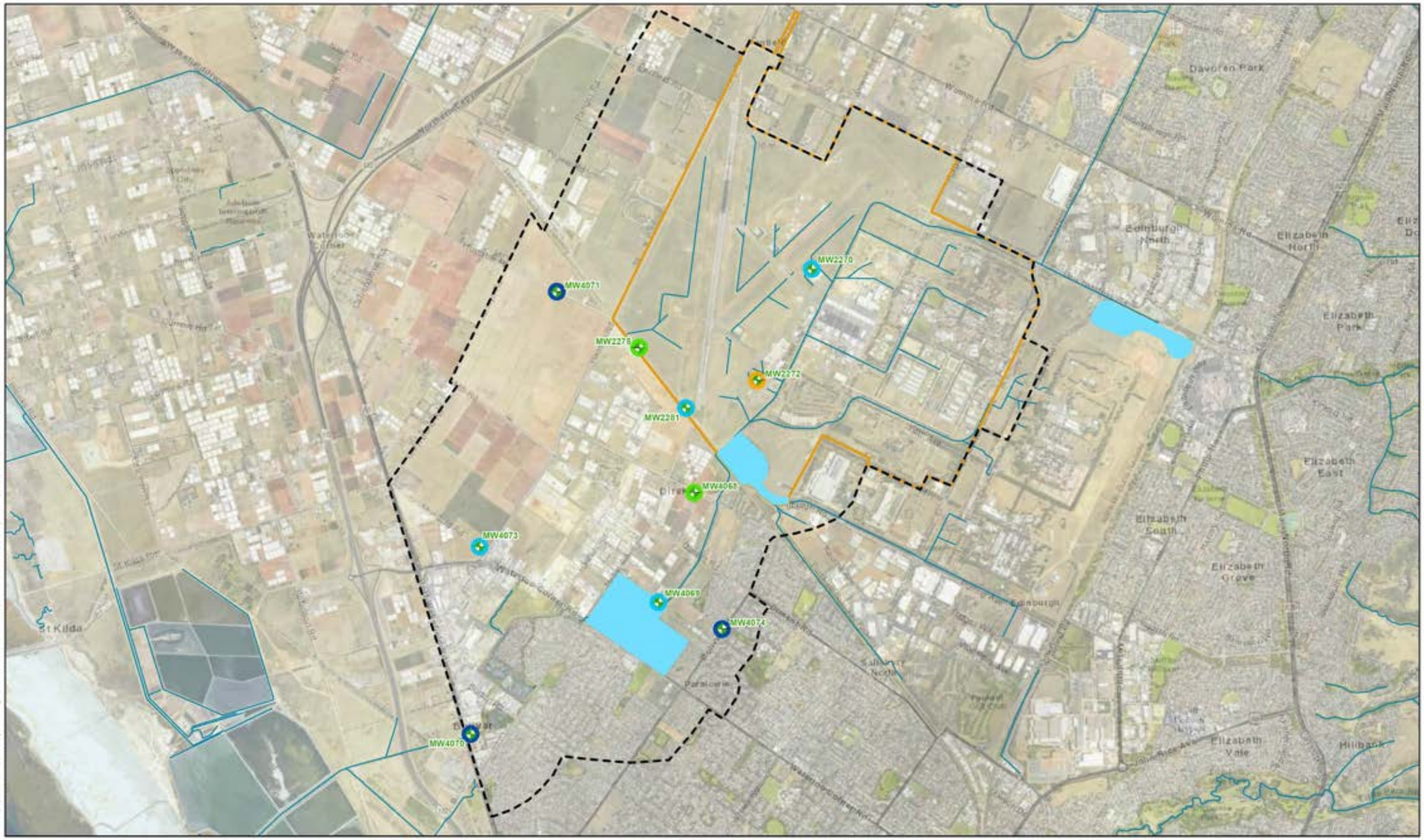
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q2 Aquifer
January/February 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] 4 JAN 2023
VERSION 1

Figure
A4.6

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q3 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

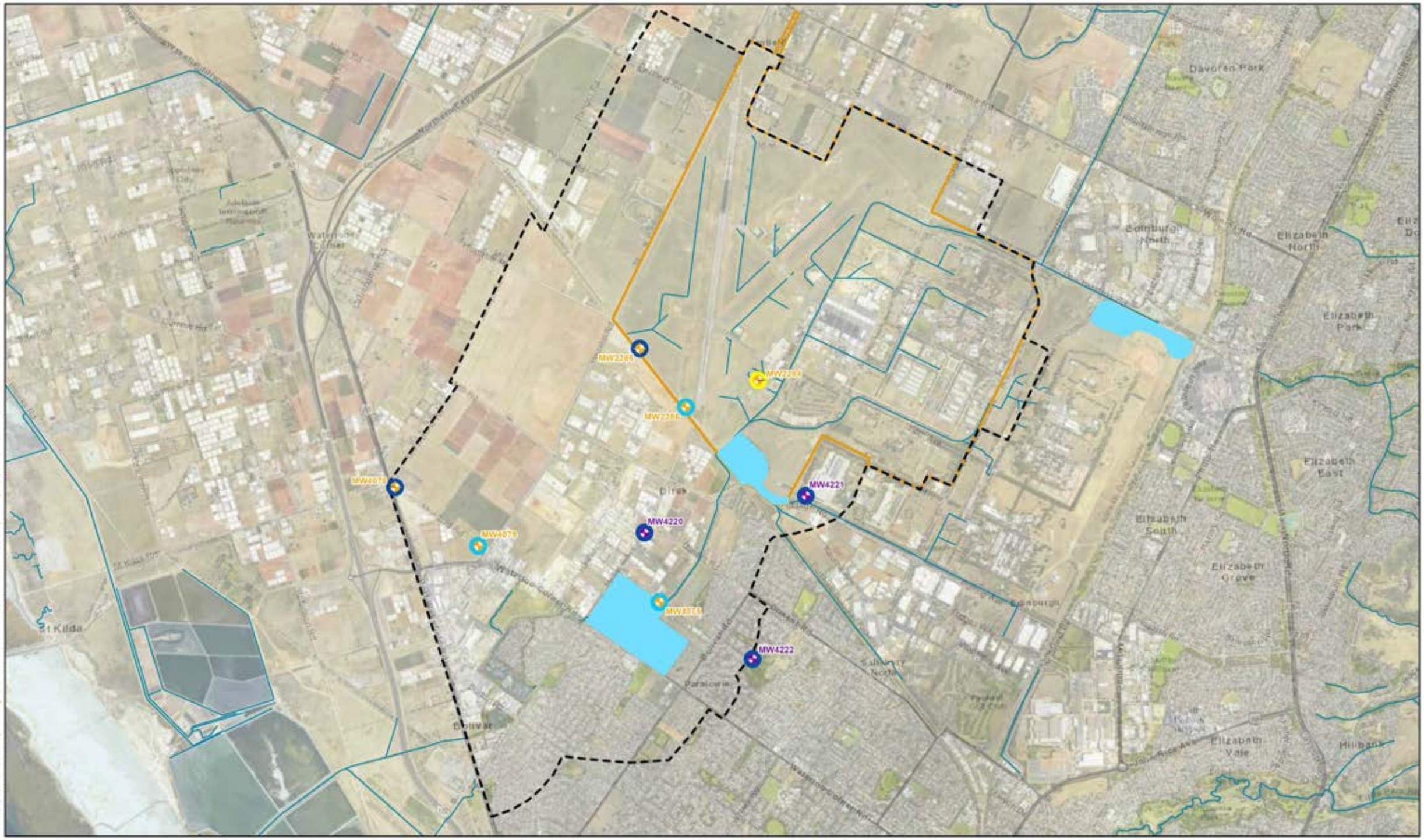
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q3 Aquifer
January/February 2022

PROJECT ID: 60612561
CREATED BY: [redacted]
LAST MODIFIED: 4 JAN 2023
VERSION: 1

Figure
A4.7

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only

Sample Locations

- Q4 Aquifer
- T1 Aquifer

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater Q4 and T1 Aquifer January/February 2022

PROJECT ID 60612561

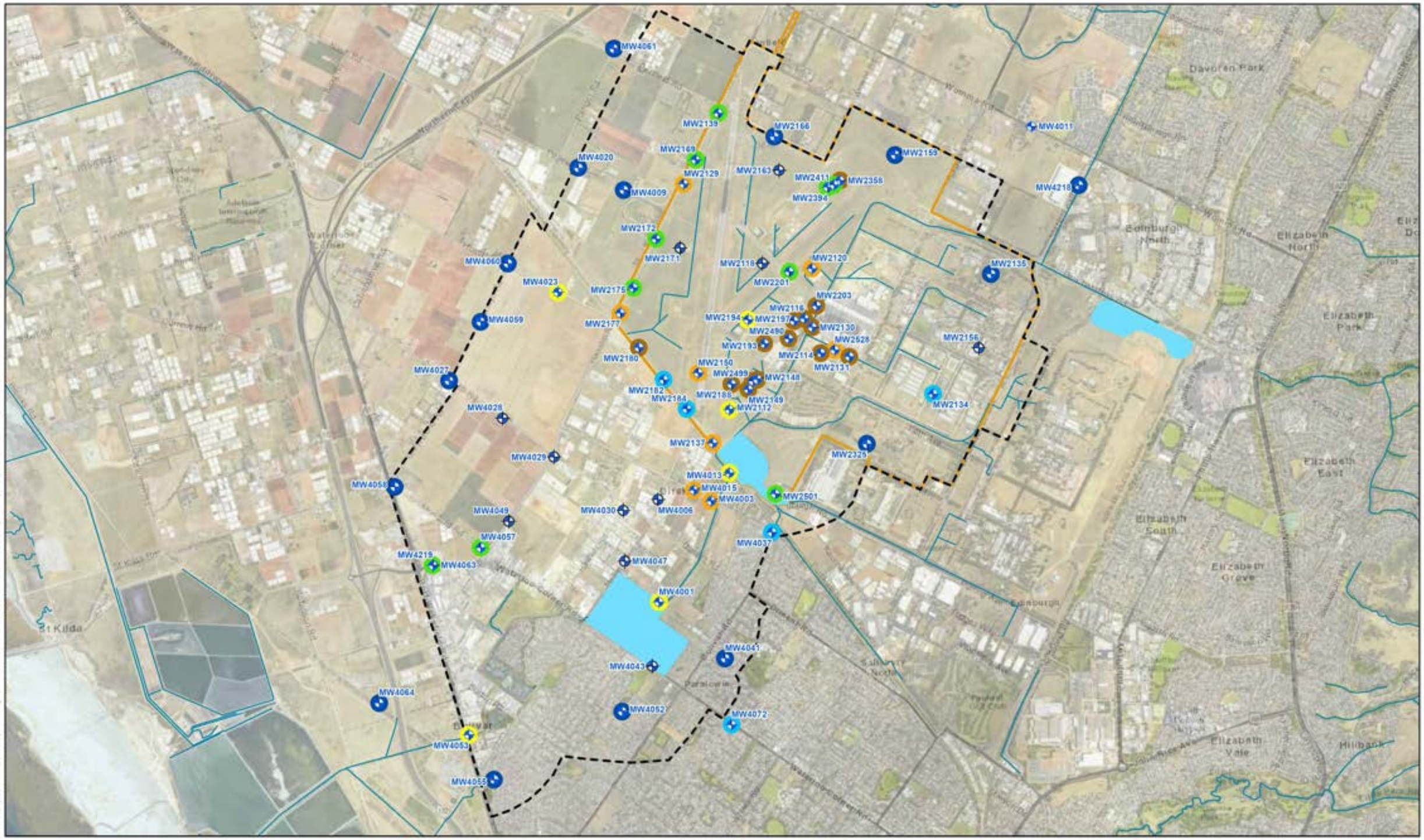
CREATED BY [redacted]

LAST MODIFIED [redacted] JAN 2023

VERSION 1

Figure A4.8

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

Q1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

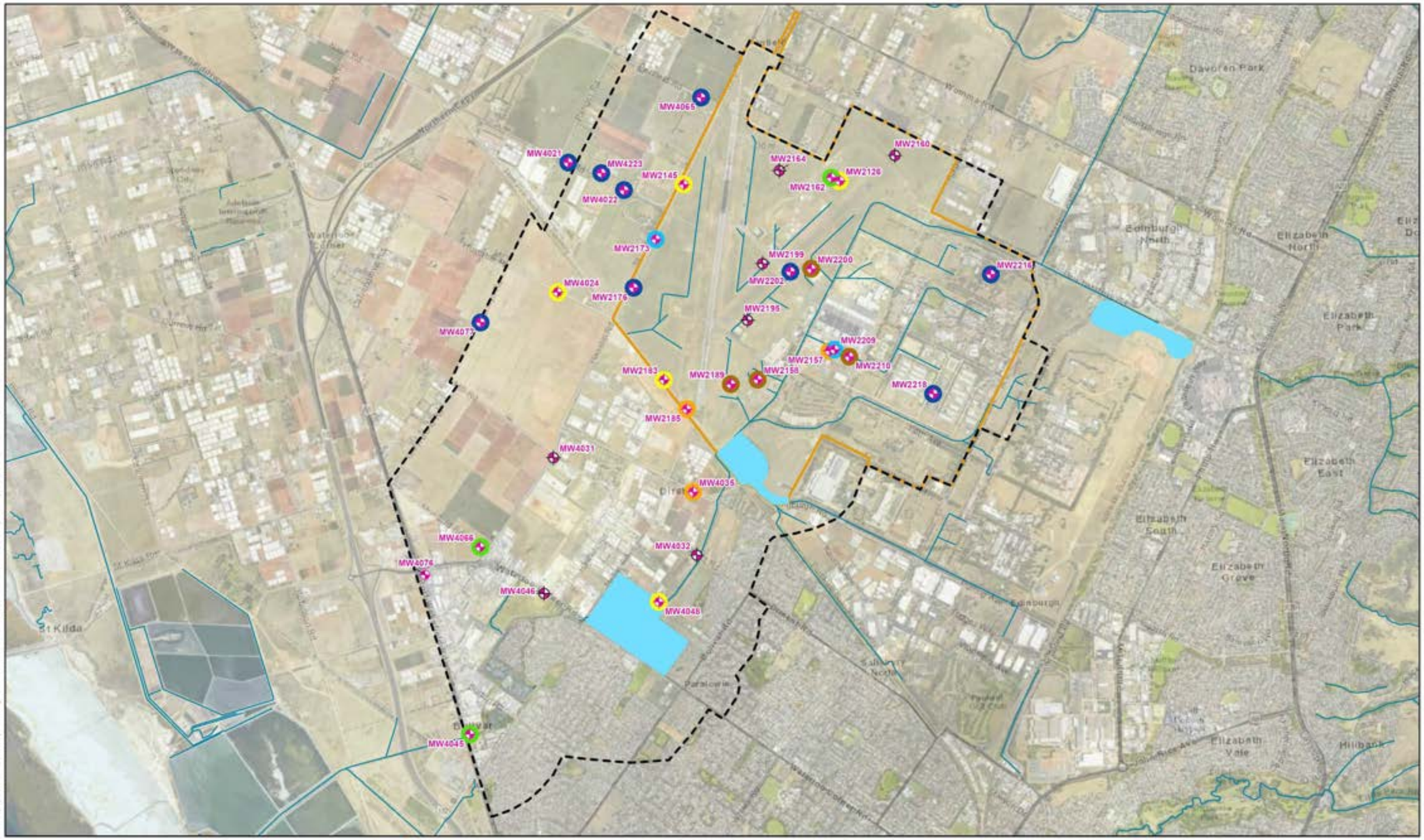
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q1 Aquifer
July 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure A4.9

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

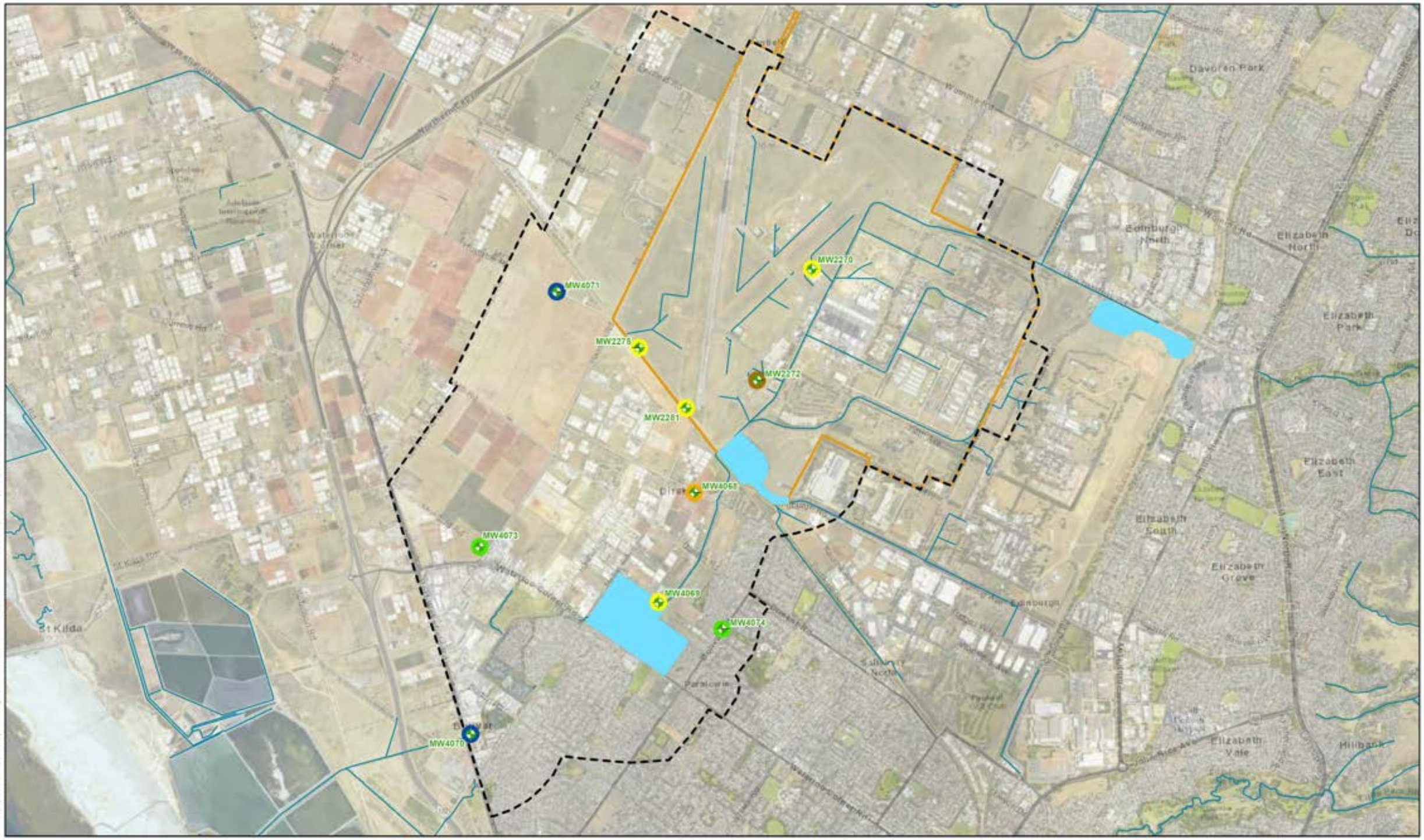
PFOS+PFHxS Concentrations in Groundwater
Q2 Aquifer
July 2022

PROJECT ID	60612561
CREATED BY	[redacted]
LAST MODIFIED	JAN 2023
VERSION	1

Figure

A4.10

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Sample Locations

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

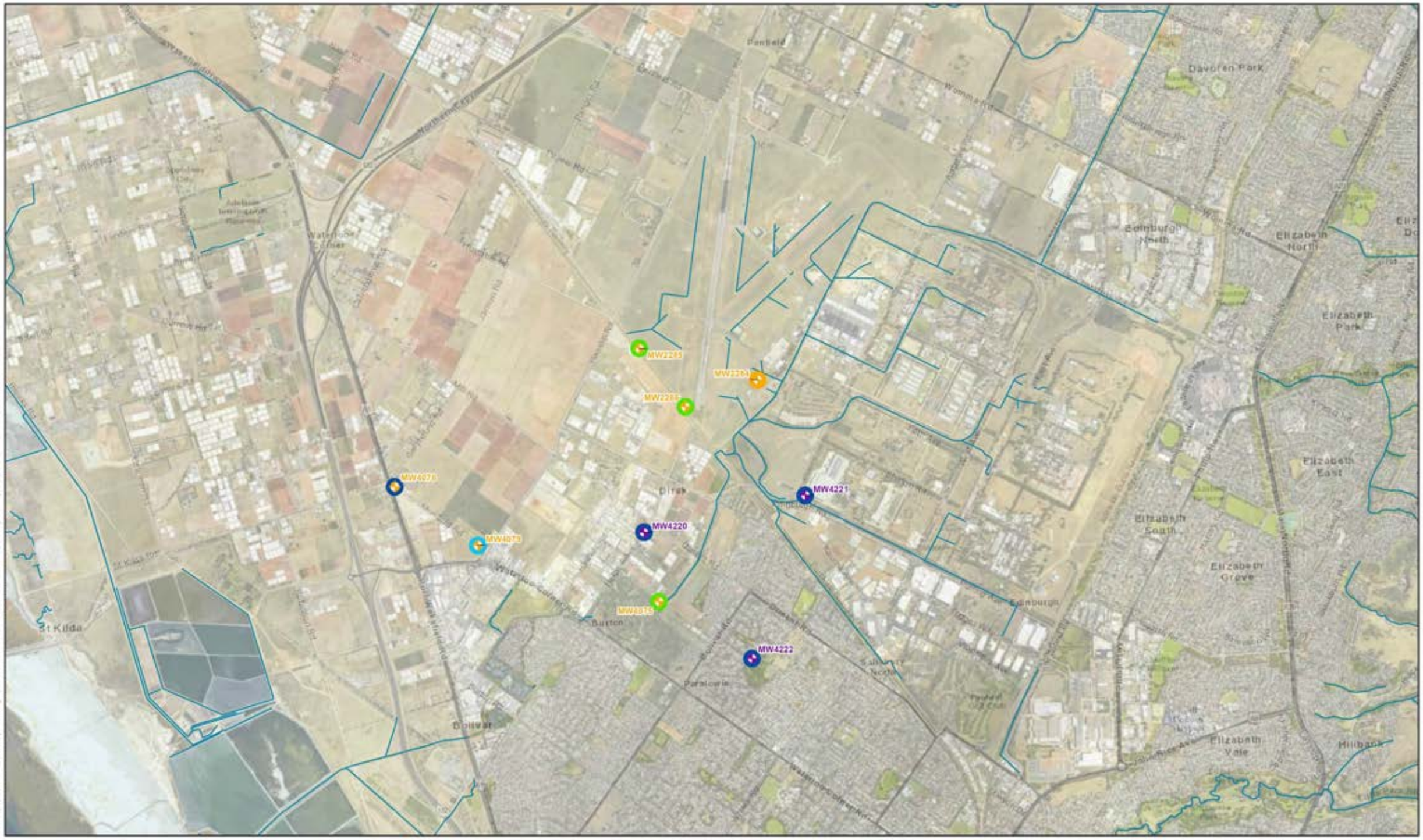
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q3 Aquifer
July 2022

PROJECT ID: 60612561
CREATED BY: [redacted]
LAST MODIFIED: 0 JAN 2023
VERSION: 1

Figure
A4.11

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only

Sample Locations

- Q4 Aquifer
- T1 Aquifer

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

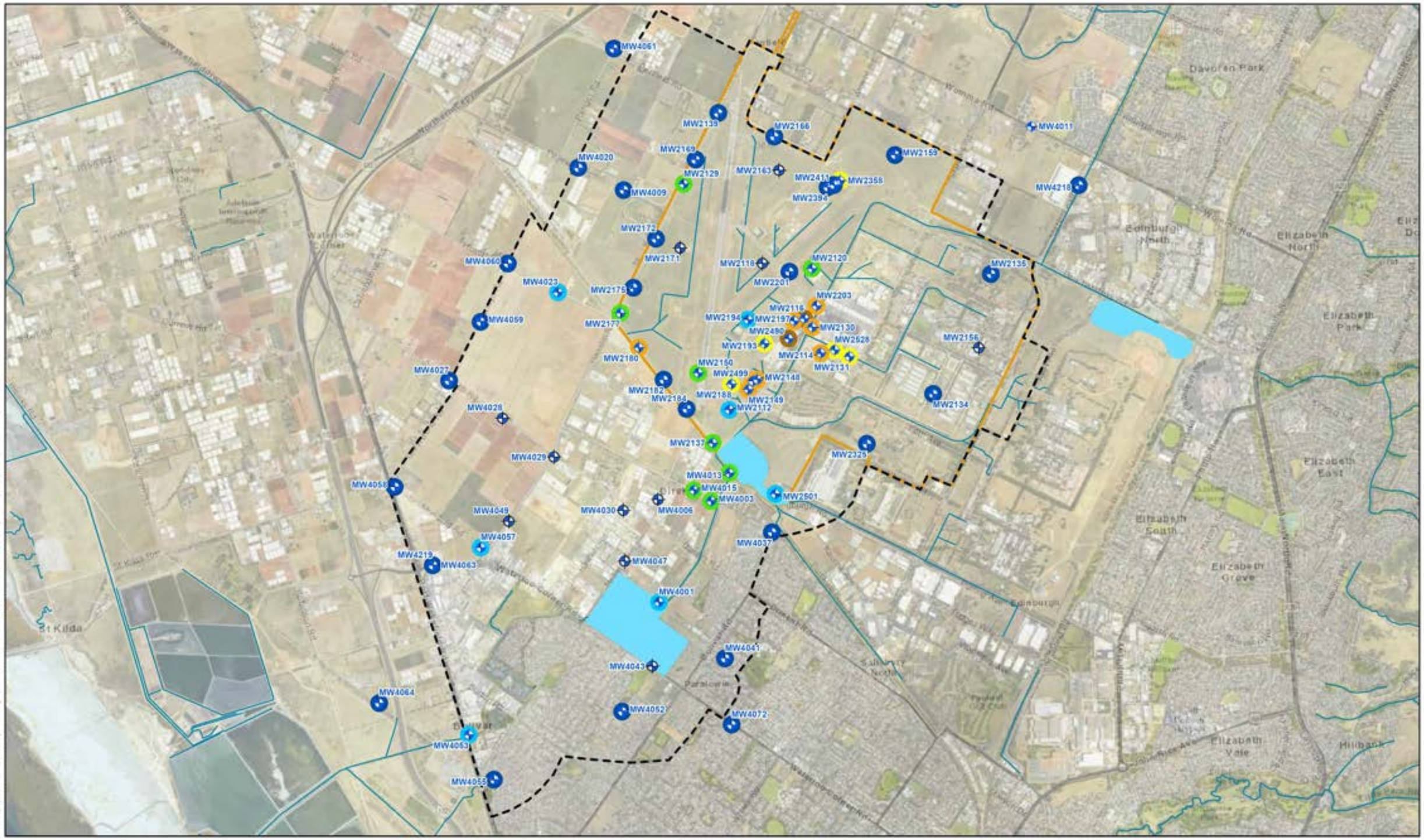
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOS+PFHxS Concentrations in Groundwater
Q4 and T1 Aquifer
July 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A4.12

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

Q1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Springbank Waters Estate

Detention Basin

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

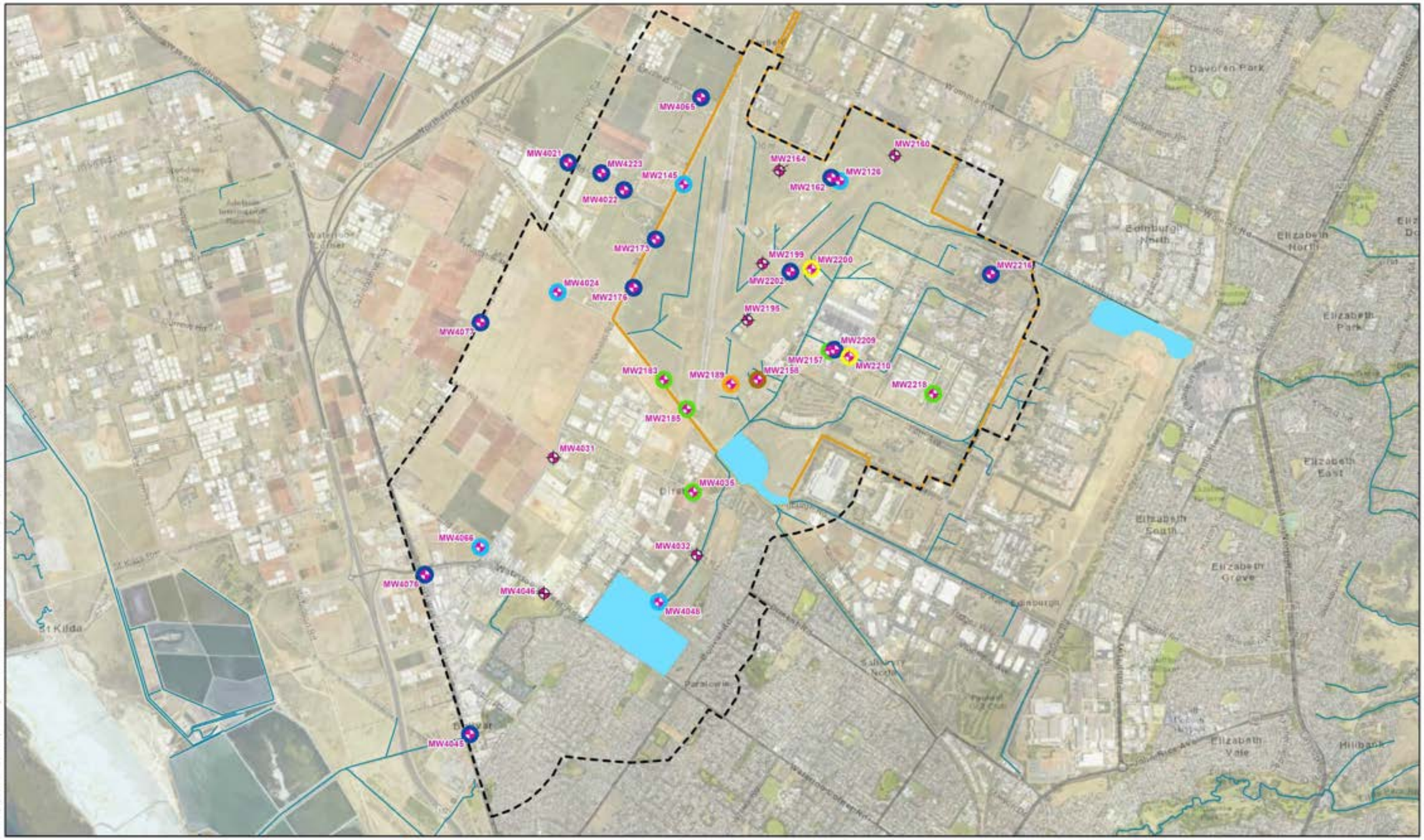
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q1 Aquifer
July 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] 4 JAN 2023
VERSION 1

Figure A4.13

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

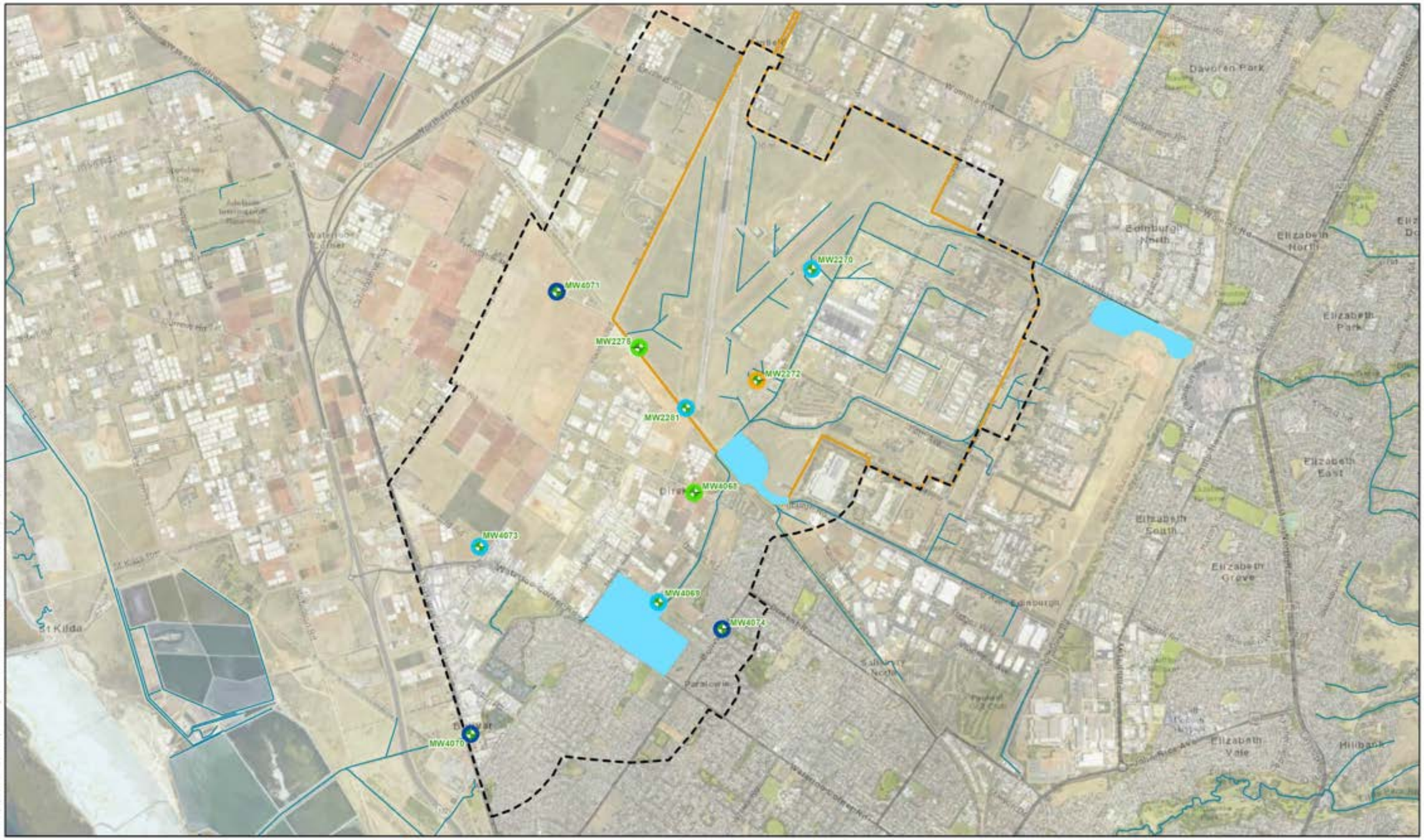
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q2 Aquifer
July 2022

PROJECT ID: 60612561
CREATED BY: [redacted]
LAST MODIFIED: 4 JAN 2023
VERSION: 1

Figure
A4.14

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only
- **Sample Locations**
  - Q3 Aquifer
- Management Area
- RAAF Base Edinburgh Boundary
- Springbank Waters Estate
- Detention Basin

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

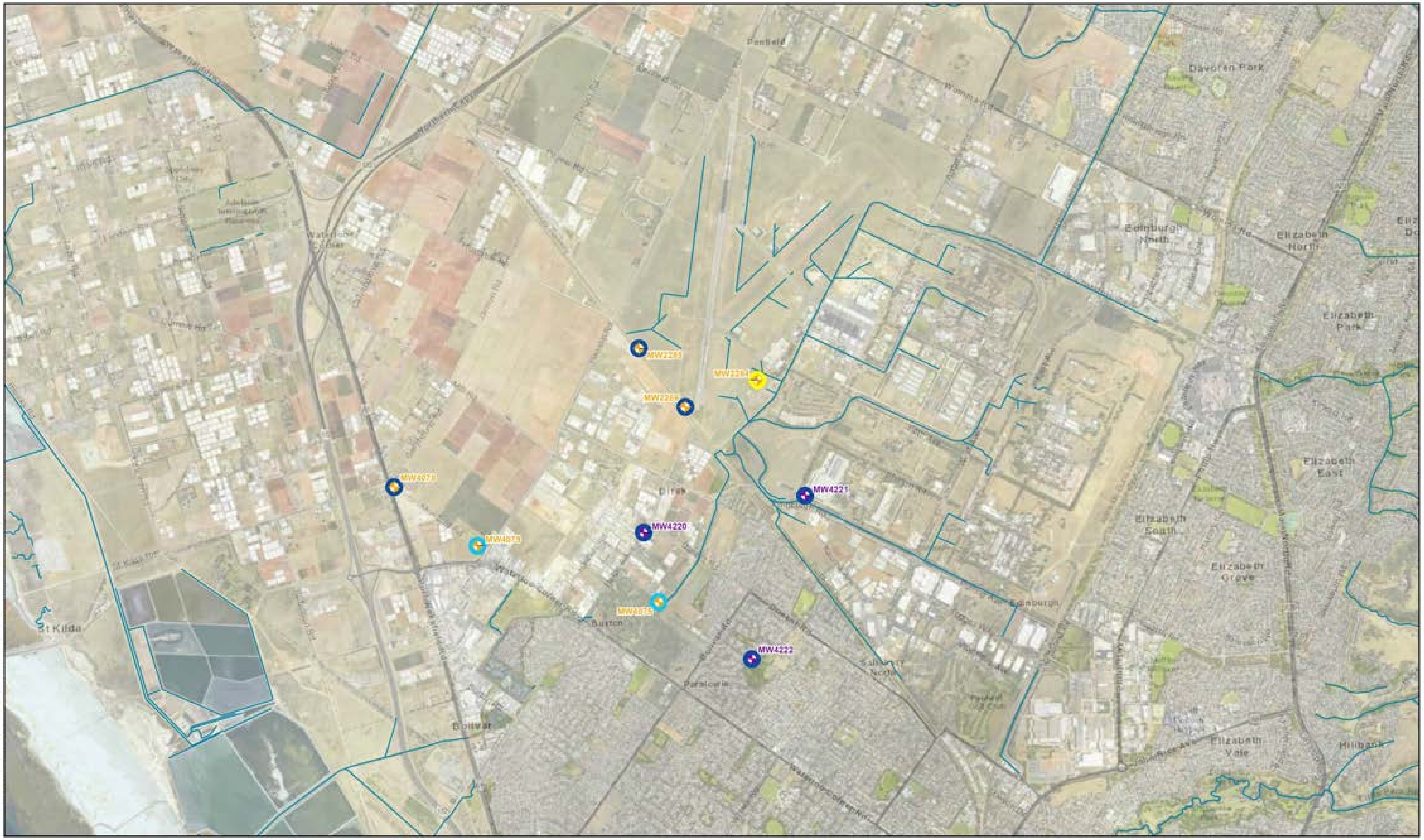
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater
Q3 Aquifer
July 2022

PROJECT ID	60612561
CREATED BY	[redacted]
LAST MODIFIED	4 JAN 2023
VERSION	1

Figure
A4.15

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Gauging Locations Only

Sample Locations

- Q4 Aquifer
- T1 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Springbank Waters Estate

Detention Basin

Concentrations

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

Data sources:

Base Data, Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP

ANNUAL INTERPRETIVE REPORT

PFOA Concentrations in Groundwater

Q4 and T1 Aquifer

July 2022

PROJECT ID 60612561

CREATED BY [redacted]

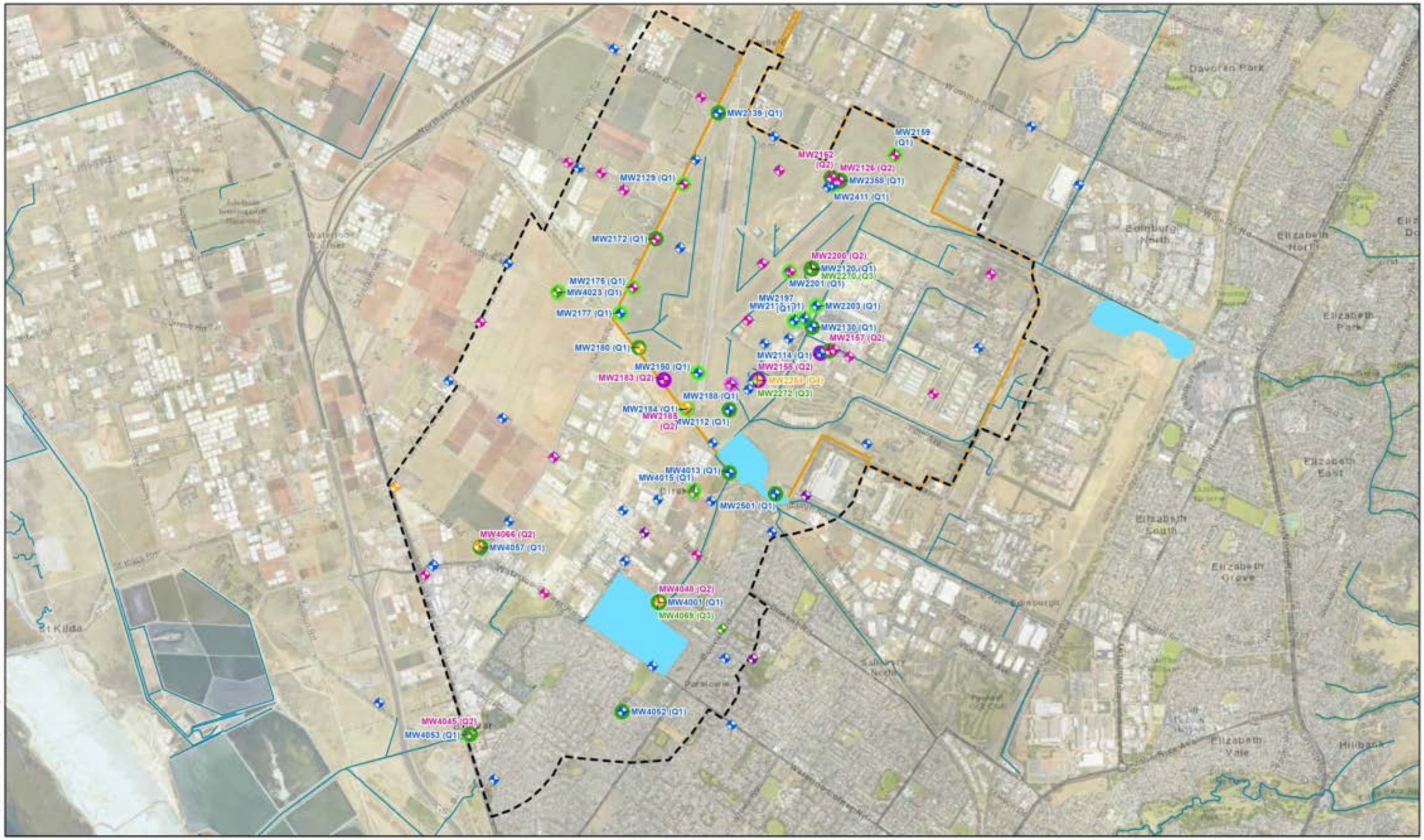
LAST MODIFIED [redacted] 4 JAN 2023

VERSION 1

Figure

A4.16

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

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

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

PFHXS+PFOS concentration trends (Mann-Kendall)

- Decreasing
- Probably Decreasing
- Probably Increasing
- Increasing

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

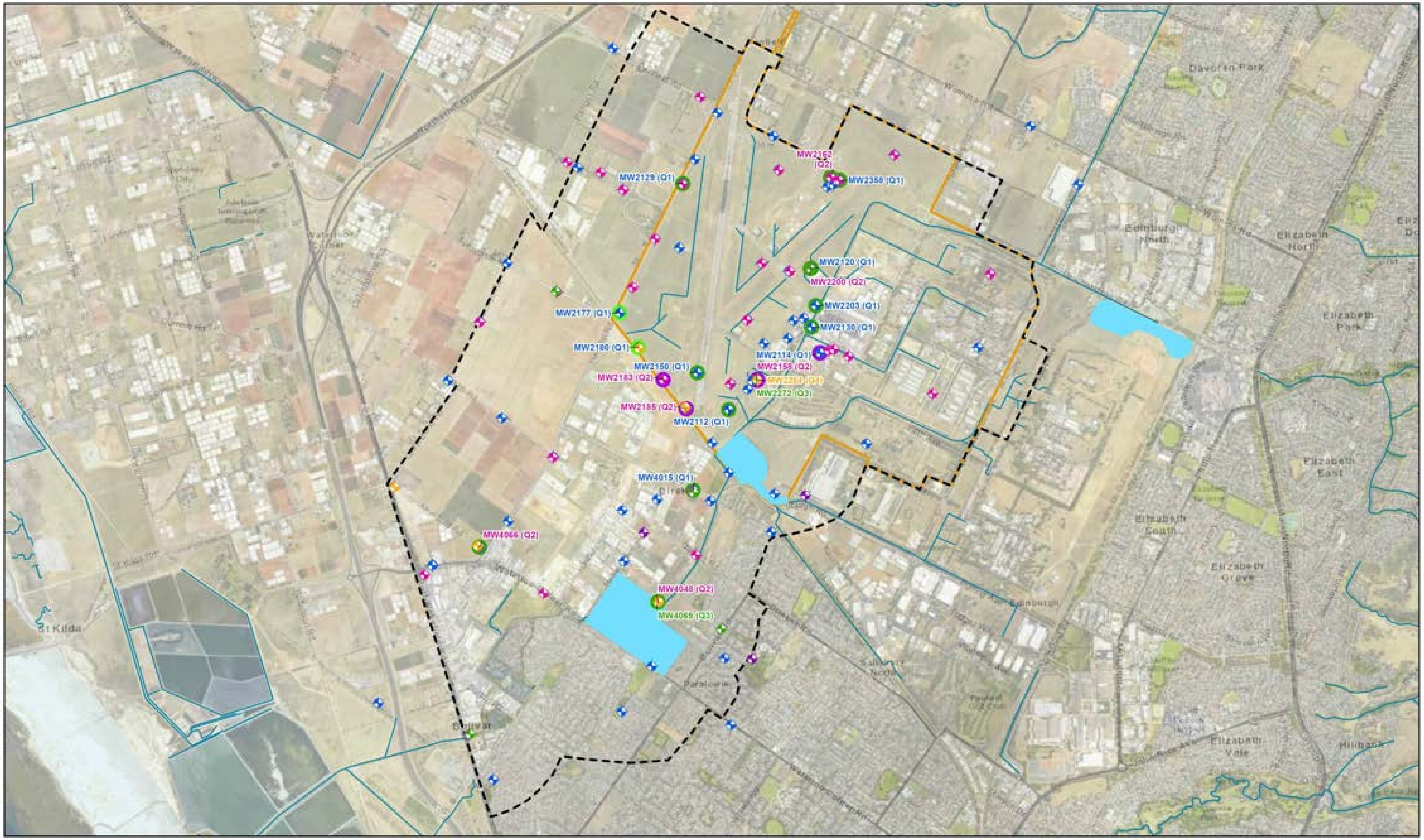
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Locations with PFHxS+PFOS concentration trends (Mann-Kendall)

PROJECT ID 60612561
CREATED BY
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A4.17

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

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

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

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

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

Data sources:
Base Data: Imagery (c) 2017 ESRI

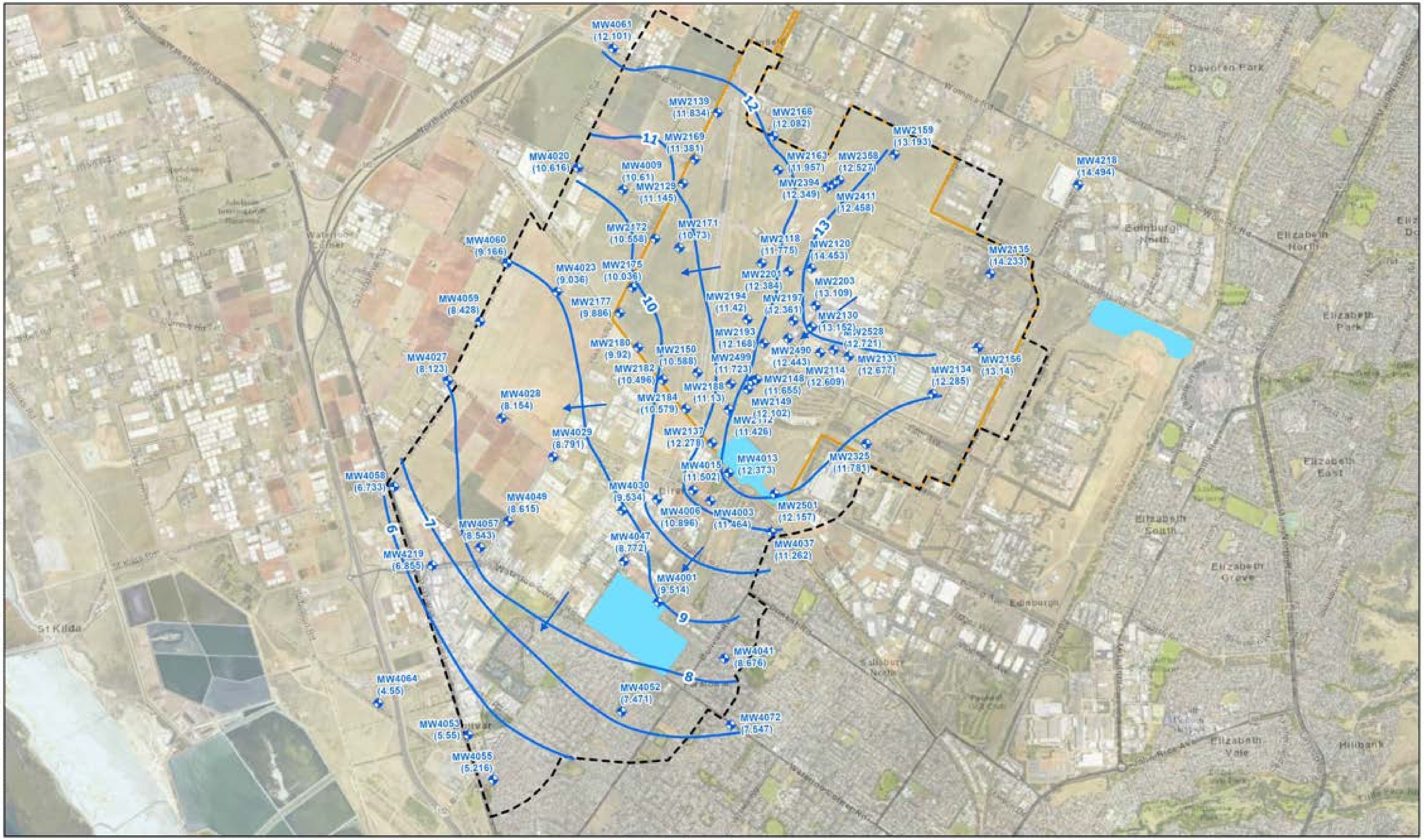
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Locations with PFOA concentration trends (Mann-Kendall)

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED 4 JAN 2023
VERSION 1

Figure
A4.18

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

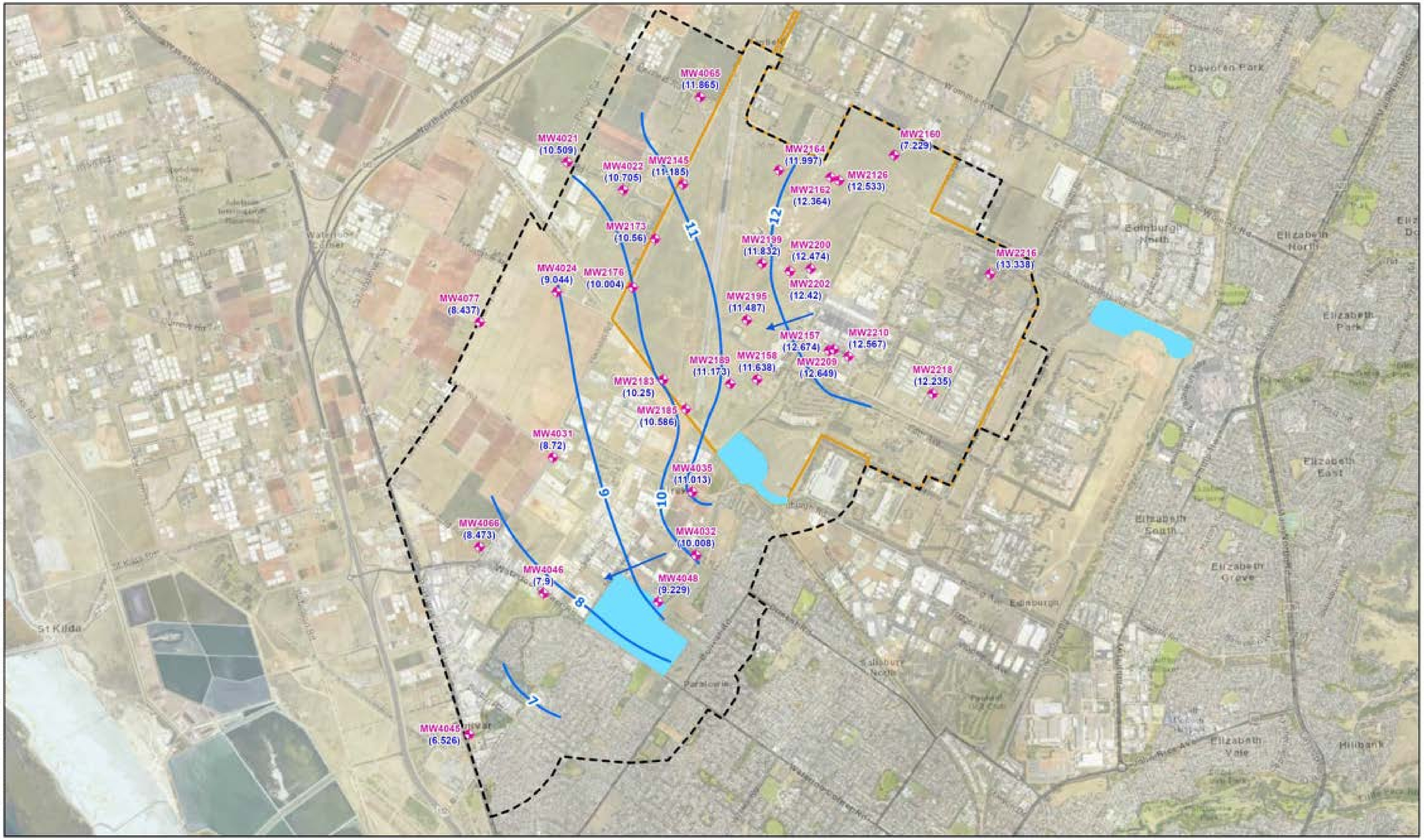
Inferred Groundwater Elevation
Q1 Monitoring Wells,
January 2022

PROJECT ID	60612561
CREATED BY	[redacted]
LAST MODIFIED	3 JAN 2023
VERSION	1

Figure
A5.1

Data sources:
Base Data: Imagery (c) 2017 ESRI

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations — Q2 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Inferred Groundwater Contour

Inferred Groundwater Flow Direction

0.000 Groundwater Elevation

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

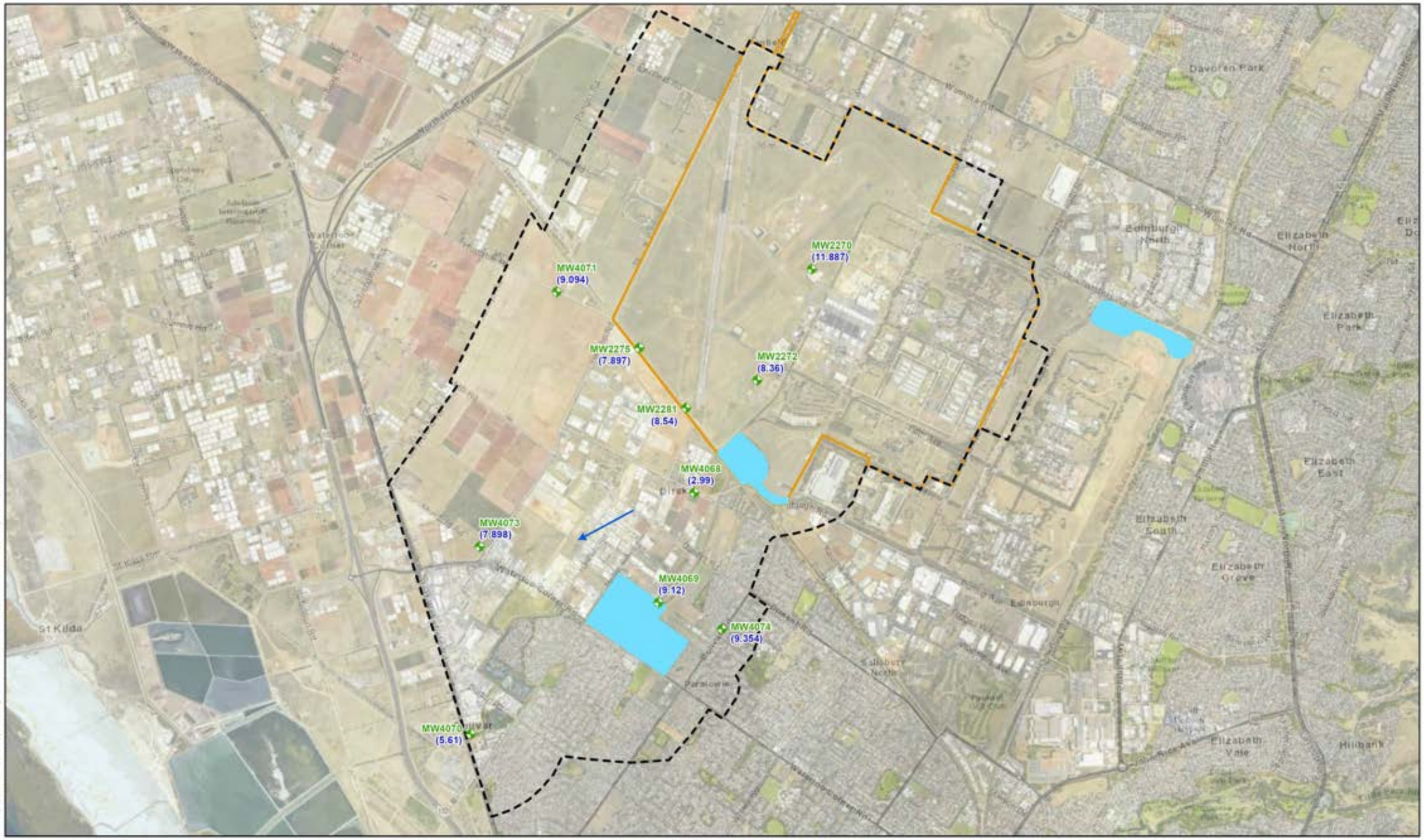
Inferred Groundwater Elevation
Q2 Monitoring Wells,
January 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] 5 JAN 2023
VERSION 1

Figure
A5.2

Data sources:
Base Data: Imagery (c) 2017 ESRI

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
Q3 Aquifer

Management Area
RAAF Base Edinburgh Boundary
Detention Basin

Inferred Groundwater Flow Direction
0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

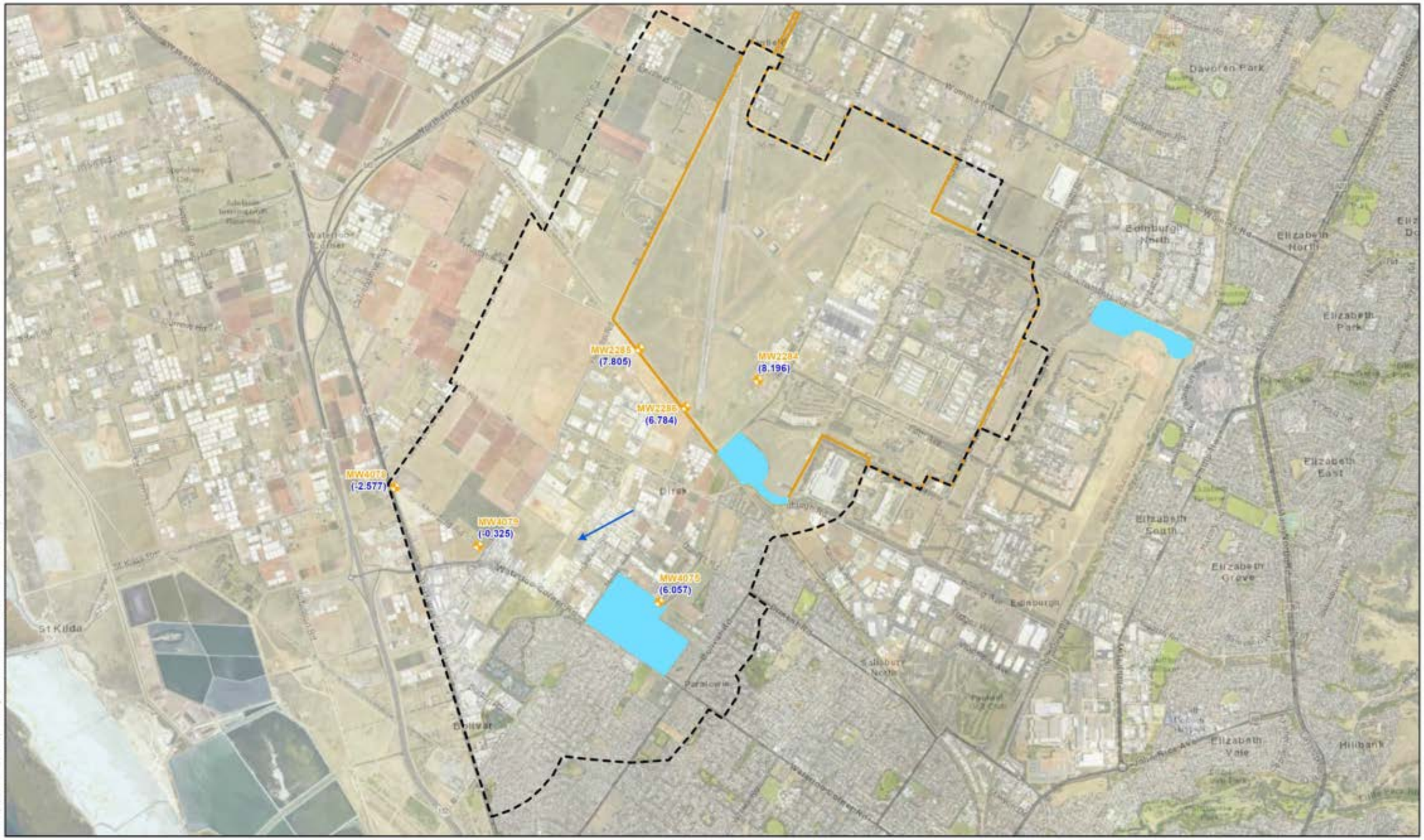
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q3 Monitoring Wells,
January 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A5.3

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
Q4 Aquifer

Management Area
RAAF Base Edinburgh Boundary
Detention Basin

Inferred Groundwater Flow Direction
0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

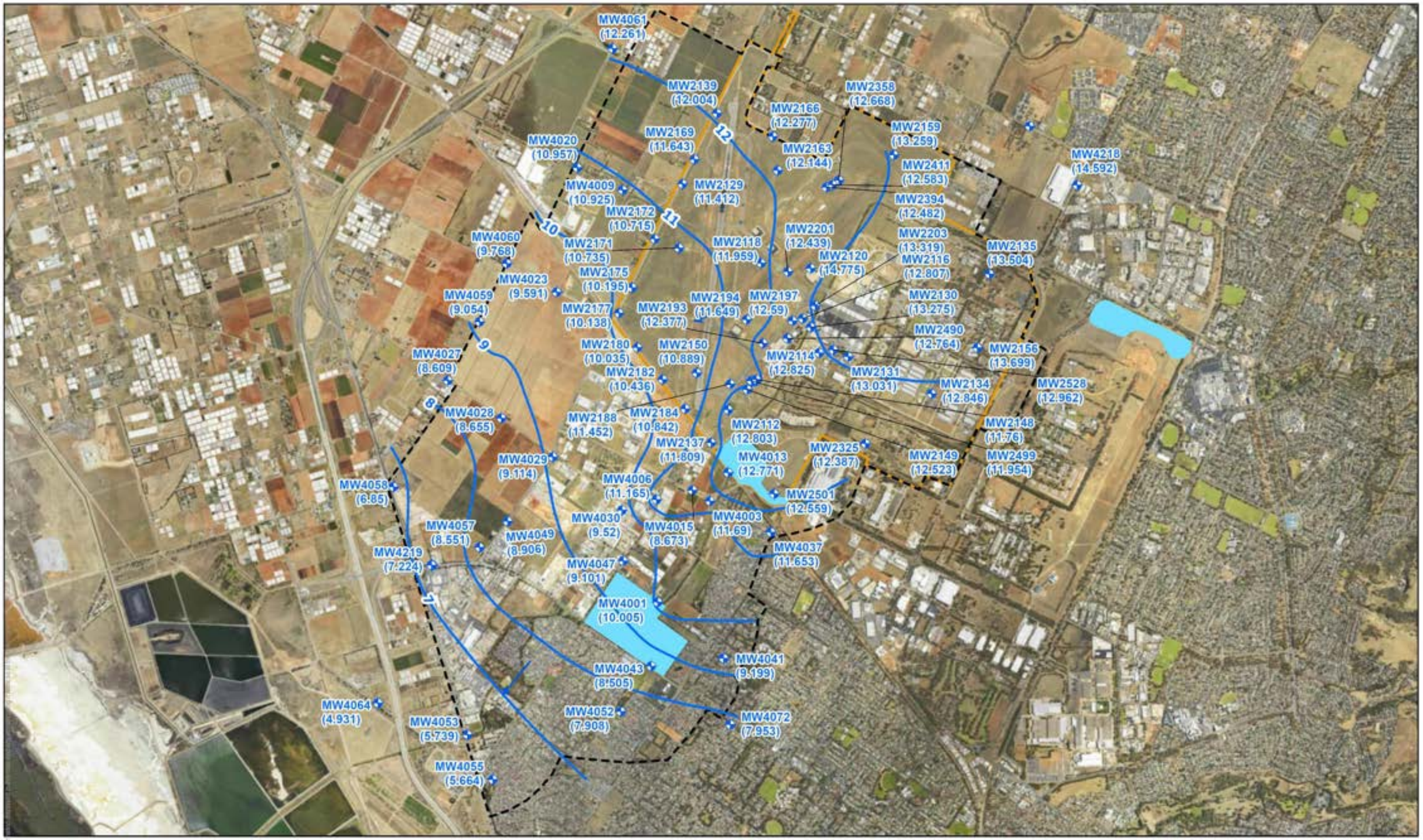
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q4 Monitoring Wells,
January 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] 6 JAN 2023
VERSION 1

Figure
A5.4

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
Q1 Aquifer

Management Area
RAAF Base Edinburgh Boundary
Detention Basin

Inferred Groundwater Contour
Inferred Groundwater Flow Direction
0.000 Groundwater Elevation

Data sources

Base Data: Imagery (c) 2017 ESRI

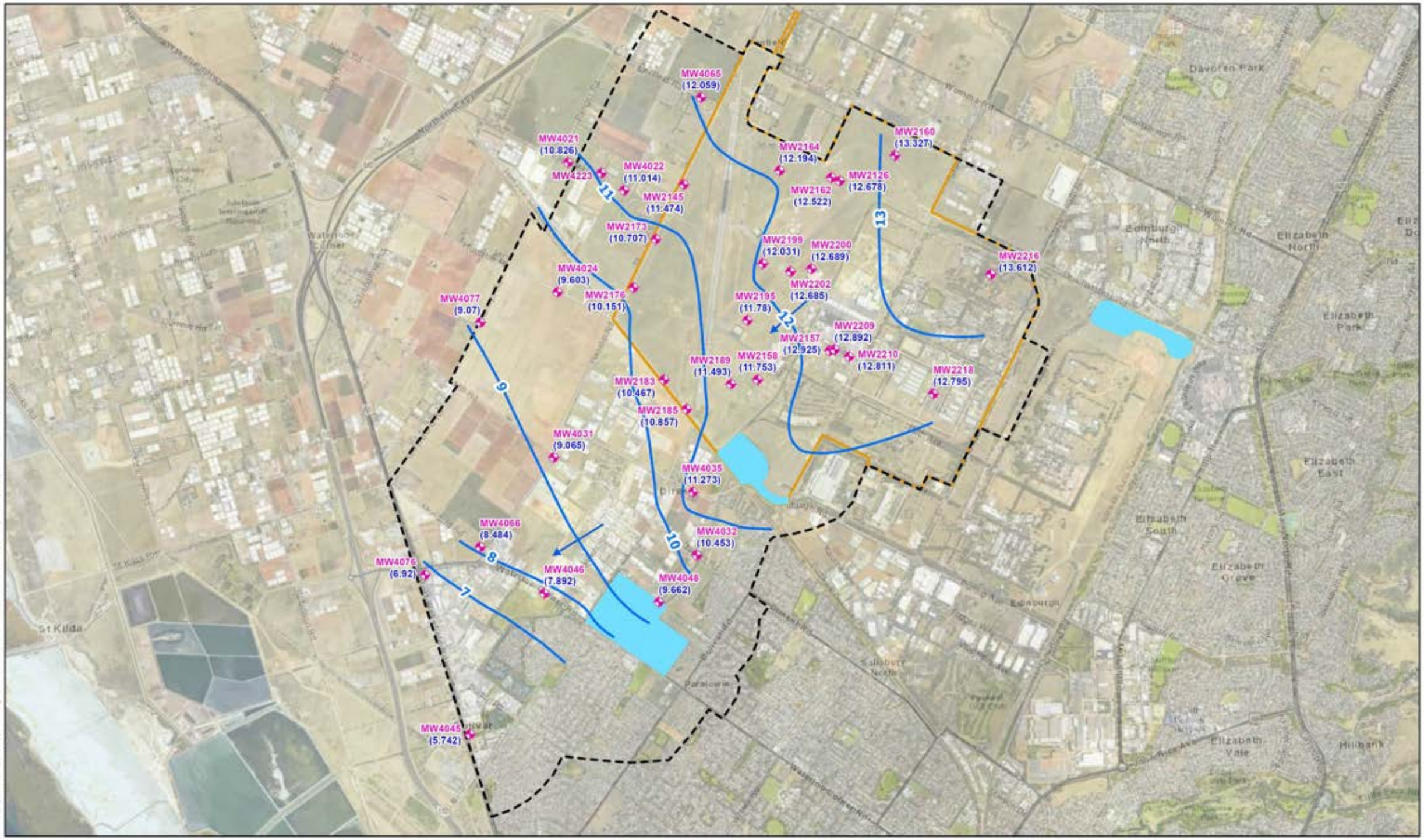
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q1 Monitoring Wells,
July 2022

PROJECT ID 60612561
CREATED BY
LAST MODIFIED [redacted] 5 JAN 2023
VERSION 1

Figure
A5.5

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations
- Q2 Aquifer

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

- Inferred Groundwater Contour
- Inferred Groundwater Flow Direction
- 0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q2 Monitoring Wells, July 2022

PROJECT ID: 606125[redacted]
CREATED BY: [redacted]
LAST MODIFIED: [redacted] JAN 2023
VERSION: 1

Figure
A5.6

A3 size

MW4071
(9.758)

MW2270
(12.251)

MW2275
(9.974)

MW2272
(10.347)

MW2281
(9.986)

MW4068
(7.268)

MW4073
(8.354)

MW4069
(9.532)

MW4074
(9.735)

MW4070
(5.863)

Davoren Park

Elizabeth North

Elizabeth Park

Elizabeth East

Elizabeth South

Elizabeth Grove

Elizabeth Vale

Hillbank

Edinburgh

Salisbury North

Parafield

St Kilda

AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

Q3 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Inferred Groundwater Flow Direction

0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP

ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q3 Monitoring Wells,
July 2022

PROJECT ID: 606125610

CREATED BY: [redacted]

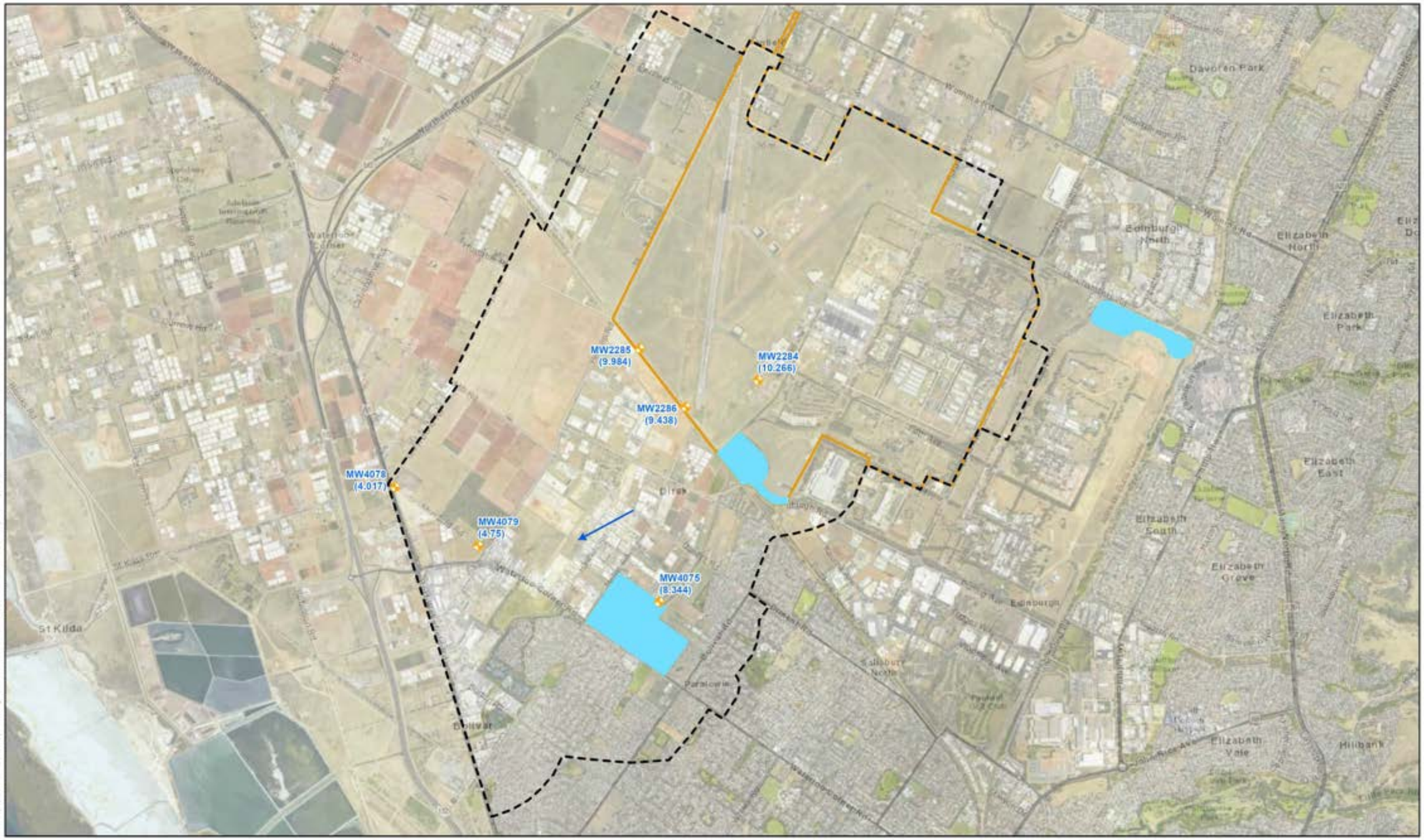
LAST MODIFIED: 5 JAN 2023

VERSION: 1

Figure

A5.7

A3 size



AECOM

www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

Q4 Aquifer

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Inferred Groundwater Flow Direction

0.000 Groundwater Elevation

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence

RAAF BASE EDINBURGH PFAS OMP

ANNUAL INTERPRETIVE REPORT

Inferred Groundwater Elevation
Q4 Monitoring Wells,
July 2022

PROJECT ID: 60612561

CREATED BY: [redacted]

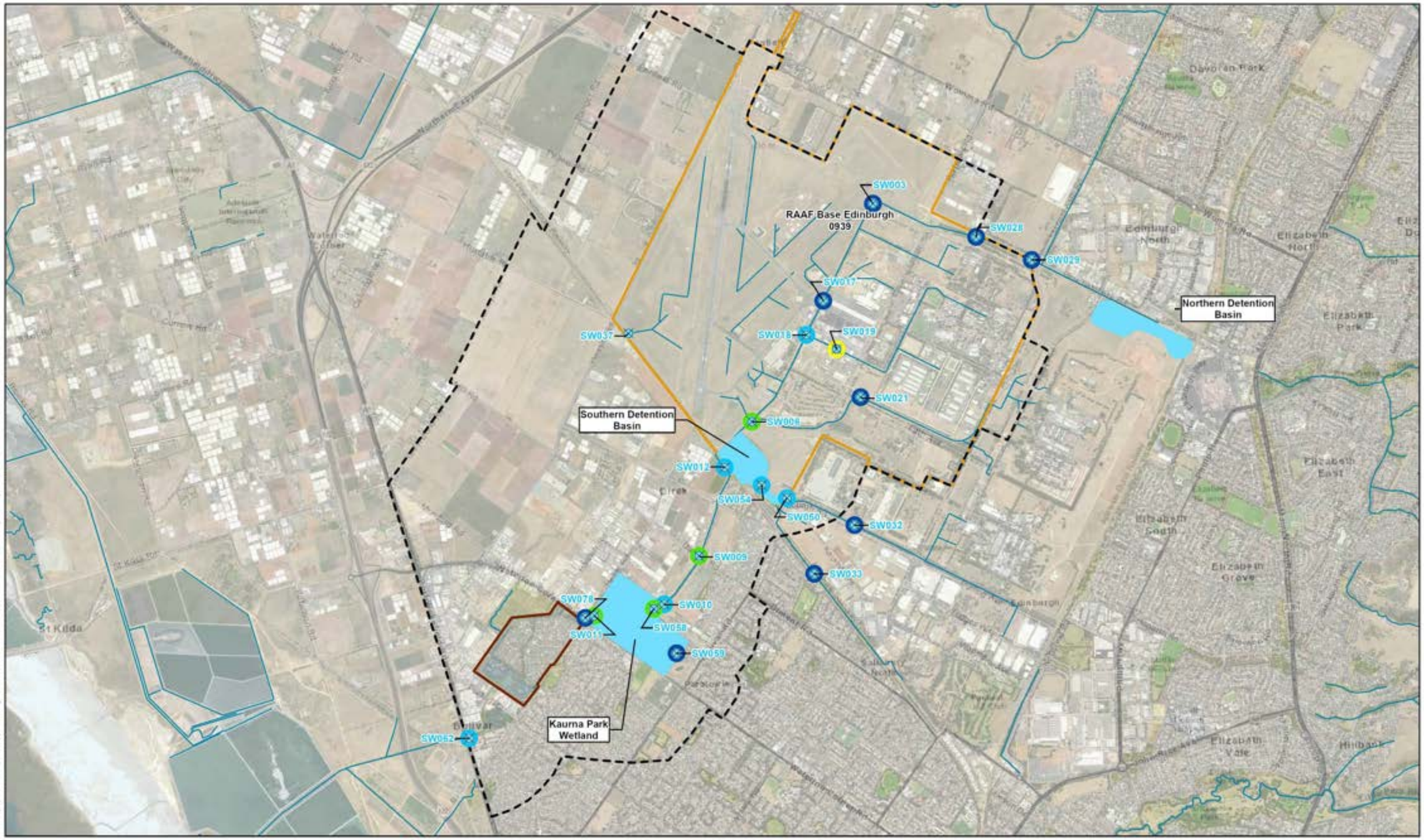
LAST MODIFIED: 5 JAN 2023

VERSION: 1

Figure

A5.8

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Concentrations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

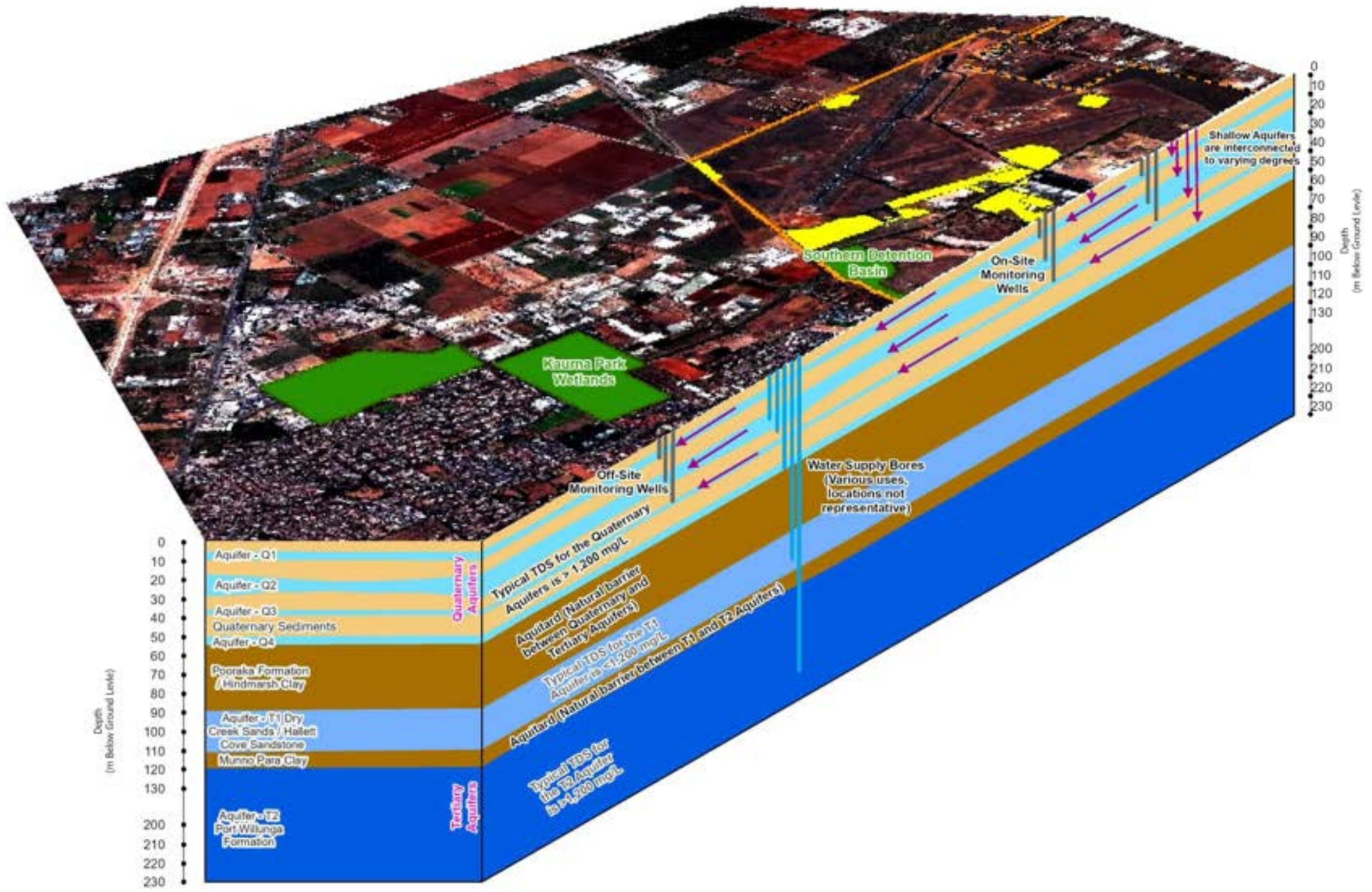
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

PFHxS+PFOS Concentration for Surface Water Locations July 2022

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure A6.1

A3 size



AECOM
www.aecom.com

LEGEND

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

Aquifer

- Aquifer Q1 - Q4
- T1
- T2

Regional Geology

- Clays
- Clays, Silts, Sands

Data sources:

Base Data: Imagery (c) 2017 ESRI

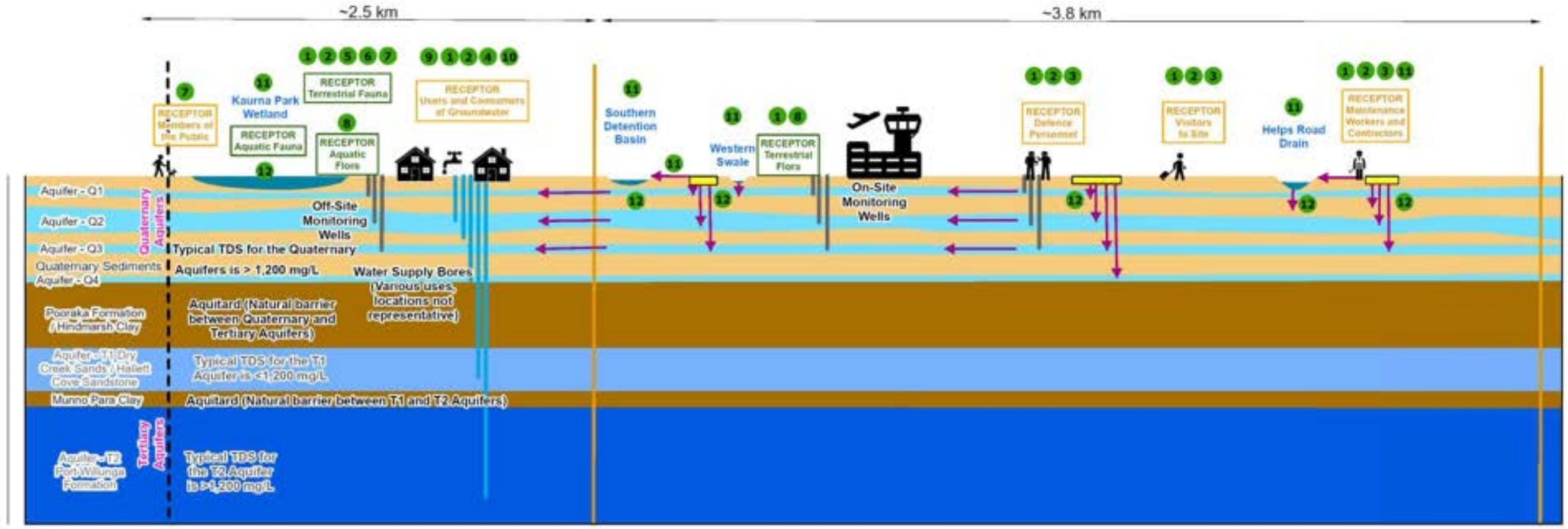
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
ANNUAL INTERPRETIVE REPORT

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

PROJECT ID: 606125631
CREATED BY: [redacted]
LAST MODIFIED: 3 JAN 2023
VERSION: 1

Figure
A7.1

A3 size



AECOM
www.aecom.com

LEGEND

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

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

Aquifer
Aquifer Q1 - Q4
T1
T2

Regional Geology
Clays
Clays, Silts, Sands

Data sources:
Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP ANNUAL INTERPRETIVE REPORT

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

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED [redacted] JAN 2023
VERSION 1

Figure
A7.2

A3 size

Appendix B

SAQP

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

DRAFT

Sampling Analysis and Quality Plan

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

aecom.com

Delivering a better world

D R A F T

Sampling Analysis and Quality Plan

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

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd
Larrakia Country, Level 3, 9 Cavenagh Street, Darwin NT 0800, GPO Box 3175, Darwin NT 0801, Australia
T +61 8 8942 6200 F +61 8 8942 6299 www.aecom.com
ABN 20 093 846 925

24-Jan-2022

Job No.: 60612561

D R A F T

Quality Information

Document Sampling Analysis and Quality Plan

Ref 60612562_RAAF Edinburgh_OMP_SAQP_Rev 2_20230124.docx

Date 24-Jan-2022

Prepared by [redacted]

Reviewed by [redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	25-Feb-2020	Draft for review	[redacted] Senior Environmental Scientist	
B	31-May 2020	Final		
1	25-Jun-2021	Revision 1	[redacted] Principal Environmental Scientist	[redacted]
2	24-Jan-2022	Revision 2		

D R A F T

Table of Contents

1.0 Introduction 1
1.1 Preamble 1
1.2 SAQP Objectives 1
1.3 Scope of Works 1
2.0 Site Identification and Conceptual Site Model 2
2.1 Site Details 2
2.2 Conceptual Site Model 2
3.0 Data Quality Assessment 1
3.1 Data Quality Objectives 1
3.1.1 Step 1 – State the Problem 1
3.1.2 Step 2 – Identify the Goal of the Study 1
3.1.3 Step 3 – Identify Information Inputs 2
3.1.4 Step 4 – Define the Boundaries of the Study 2
3.1.5 Step 5 – Develop the Analytical Approach 2
3.1.6 Step 6 – Specify Performance or Acceptance Criteria 3
3.1.7 Step 7 – Optimise the Design for Obtaining Data 3
4.0 Sampling Location Rationale and Methodology 5
4.1 Proposed Schedule 5
4.2 Access Requirements for Sampling 5
4.3 Groundwater Sampling Locations Rationale 5
4.4 Groundwater Sampling Locations 7
4.5 Groundwater Gauging Locations 8
4.6 Surface Water Sampling Location Rationale 8
4.7 Surface Water Sampling Locations 9
4.8 Sample Collection and Handling 10
4.8.1 Groundwater Sampling 10
4.8.2 Surface Water Sampling 11
4.8.3 Sample Handling and Transport to Laboratory 12
4.9 Calibration 12
4.10 Logistics 12
4.11 Analytical Suite and Laboratory Analysis Methods 12
4.11.1 Laboratory NATA Accreditation Details 12
4.11.2 Analytical schedule 12
4.12 Sample Nomenclature 13
4.12.1 Quality Assurance / Quality Control Sample Nomenclature 14
4.13 Defence ESdat Requirements 14
4.14 Adopted Screening Criteria 15
4.15 Waste Management 16
4.16 Quality Assurance/Quality Control Sampling 16
4.16.1 Field Intra-laboratory Duplicate and Inter-laboratory Duplicate Samples 16
4.16.2 Rinsate Samples 16
4.16.3 Field Blank Samples 16
4.16.4 Trip Blank Samples 16
4.16.5 Additional PFAS samples 16
4.17 Fieldwork Documentation 17
4.17.1 Field Observations and Results 17
4.17.2 Sample Labels 17
4.17.3 Chain of Custody Forms 17
4.17.4 Sampling Documentation 18
4.18.1 Sampling Event Factual Report 18
4.18.2 Annual Monitoring and Management Report 19
4.18.3 OMP Review 19
4.19 Deviations from OMP 19
5.0 References 21

D R A F T

Appendix A
Figures A

Appendix B
Monitoring Location Details B

D R A F T

1.0 Introduction

1.1 Preamble

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

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

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

1.2 SAQP Objectives

The objectives of this SAQP are to:

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

1.3 Scope of Works

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

- **Table 1 Scope of Works**

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

D R A F T

2.0 Site Identification and Conceptual Site Model

2.1 Site Details

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

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

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

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

2.2 Conceptual Site Model

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

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

D R A F T

3.0 Data Quality Assessment

3.1 Data Quality Objectives

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

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

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

Table 2 The seven steps in defining DQOs

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

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

3.1.1 Step 1 – State the Problem

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

3.1.2 Step 2 – Identify the Goal of the Study

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

Specific goals of the program are to:

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

3.1.3 Step 3 – Identify Information Inputs

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

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

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

3.1.4 Step 4 – Define the Boundaries of the Study

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

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

3.1.5 Step 5 – Develop the Analytical Approach

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

The decision rules can be defined as:

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

D R A F T

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

The decision on the acceptance of the analytical data should be made on the basis of the Data Quality Indicators (DQIs) as follows:

- **Precision:** A quantitative measure of the variability (or reproducibility) of data.
- **Accuracy**: A quantitative measure of the closeness of reported data to the “true” value.
- **Representativeness**: The confidence (expressed qualitatively) that data are representative of each media present on Site.
- **Completeness**: A measure of the amount of useable data from a data collection activity.
- **Comparability**: The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.

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

3.1.6 Step 6 – Specify Performance or Acceptance Criteria

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

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

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

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

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

3.1.7 Step 7 – Optimise the Design for Obtaining Data

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

D R A F T

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

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

D R A F T

4.0 Sampling Location Rationale and Methodology

4.1 Proposed Schedule

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

Sample events should be conducted in the following periods:

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

4.2 Access Requirements for Sampling

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

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

4.3 Groundwater Sampling Locations Rationale

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

D R A F T

Table 3 Groundwater Monitoring Location Rationale

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

4.4 Groundwater Sampling Locations

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

Table 4 Groundwater Monitoring Locations

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

D R A F T

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

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

4.5 Groundwater Gauging Locations

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

Table 5 Groundwater Monitoring Locations

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

4.6 Surface Water Sampling Location Rationale

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

D R A F T

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

Table 6 Surface Water Sample Rationale

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

4.7 Surface Water Sampling Locations

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

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

Table 7 Surface Water Sampling Locations

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

D R A F T

4.8 Sample Collection and Handling

4.8.1 Groundwater Sampling

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

Table 8 Groundwater Sampling Methodology and Schedule

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

D R A F T

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

4.8.2 Surface Water Sampling

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

Table 9 Surface Water Sampling Methodology and Schedule

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

4.8.3 Sample Handling and Transport to Laboratory

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

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

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

4.9 Calibration

The water quality meter will be calibrated prior to field mobilisation for field activities with relevant solutions, including pH, EC and ORP on each day of sampling. The calibration will be in accordance with manufacturers' instructions or NATA publication "General Requirements for Registration: Supplementary Requirement: Chemical Testing (NATA 1993) and Technical Note No. 19 (NATA 1994)". Where satisfactory calibration cannot be achieved, the water quality data will not be used for interpretive purposes.

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

4.10 Logistics

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

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

4.11 Analytical Suite and Laboratory Analysis Methods

4.11.1 Laboratory NATA Accreditation Details

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

4.11.2 Analytical schedule

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

Table 10 Sample Analytical Suite for PFAS

PFAS Group	Compound	CAS No.
Perfluoroalkyl Sulfonic Acids	Perfluorobutane sulfonic acid (PFBS)	375-73-5
	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4
	Perfluorohexane sulfonic acid (PFHxS)	355-46-4
	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8
	Perfluorooctane sulfonic acid (PFOS)	1763-23-1
	Perfluorodecane sulfonic acid (PFDS)	335-77-3

D R A F T

PFAS Group	Compound	CAS No.
Perfluoroalkyl Carboxylic Acids	Perfluorobutanoic acid (PFBA)	375-22-4
	Perfluoropentanoic acid (PFPeA)	2706-90-3
	Perfluorohexanoic acid (PFHxA)	307-24-4
	Perfluoroheptanoic acid (PFHpA)	375-85-9
	Perfluorooctanoic acid (PFOA)	335-67-1
	Perfluorononanoic acid (PFNA)	375-95-1
	Perfluorodecanoic acid (PFDA)	335-76-2
	Perfluoroundecanoic acid (PFUnDA)	2058-94-8
	Perfluorododecanoic acid (PFDoDA)	307-55-1
	Perfluorotridecanoic acid (PFTrDA)	72629-94-8
	Perfluorotetradecanoic acid (PFTeDA)	376-06-7
Perfluoroalkyl Sulfonamides	Perfluorooctane sulphonamide (FOSA)	754-91-6
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	2448-09-7
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6
(n:2) Fluorotelomer Sulfonic Acids	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0

The current standard laboratory limits of reporting (LOR) are described in **Table 11** below.

Table 11 Laboratory Limits of Reporting

Sample Media	Parameter	Technique/Method Reference	LOR*
Groundwater and Surface Water	Extended PFAS Suite	LC/MS-MS	0.01 – 1.0 µg/L

LC/MS-MS = Liquid chromatography–mass spectrometry

*LOR for Australian Laboratory Services (ALS)

4.12 Sample Nomenclature

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

D R A F T

Table 12 Mandatory requirements for Defence sample nomenclature

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

Table 13 Sample Abbreviations

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

4.12.1 Quality Assurance / Quality Control Sample Nomenclature

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

Table 14 QA/QC sample naming convention

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

4.13 Defence ESdat Requirements

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

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

D R A F T

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

4.14 Adopted Screening Criteria

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

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

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

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

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

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

D R A F T

4.15 Waste Management

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

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

4.16 Quality Assurance/Quality Control Sampling

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

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

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

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

4.16.2 Rinsate Samples

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

4.16.3 Field Blank Samples

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

4.16.4 Trip Blank Samples

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

4.16.5 Additional PFAS samples

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

D R A F T

4.17 Fieldwork Documentation

4.17.1 Field Observations and Results

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

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

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

The coordinates for each sample location will be noted. The location of quality control (e.g. duplicate and inter-laboratory duplicate) sample collection points will also be noted.

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

4.17.2 Sample Labels

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

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

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

4.17.3 Chain of Custody Forms

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

The CoC form will include the following information:

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

D R A F T

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

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

4.17.4 Sampling Documentation

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

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

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

4.18 Reporting

4.18.1 Sampling Event Factual Report

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

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

- Laboratory analytical certificates and QAQC reports
- Equipment calibration certificates

4.18.2 Annual Monitoring and Management Report

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

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

4.18.3 OMP Review

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

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

4.19 Deviations from OMP

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

Table 16 Deviations from OMP

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

D R A F T

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

D R A F T

5.0 References

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

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

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

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

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

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

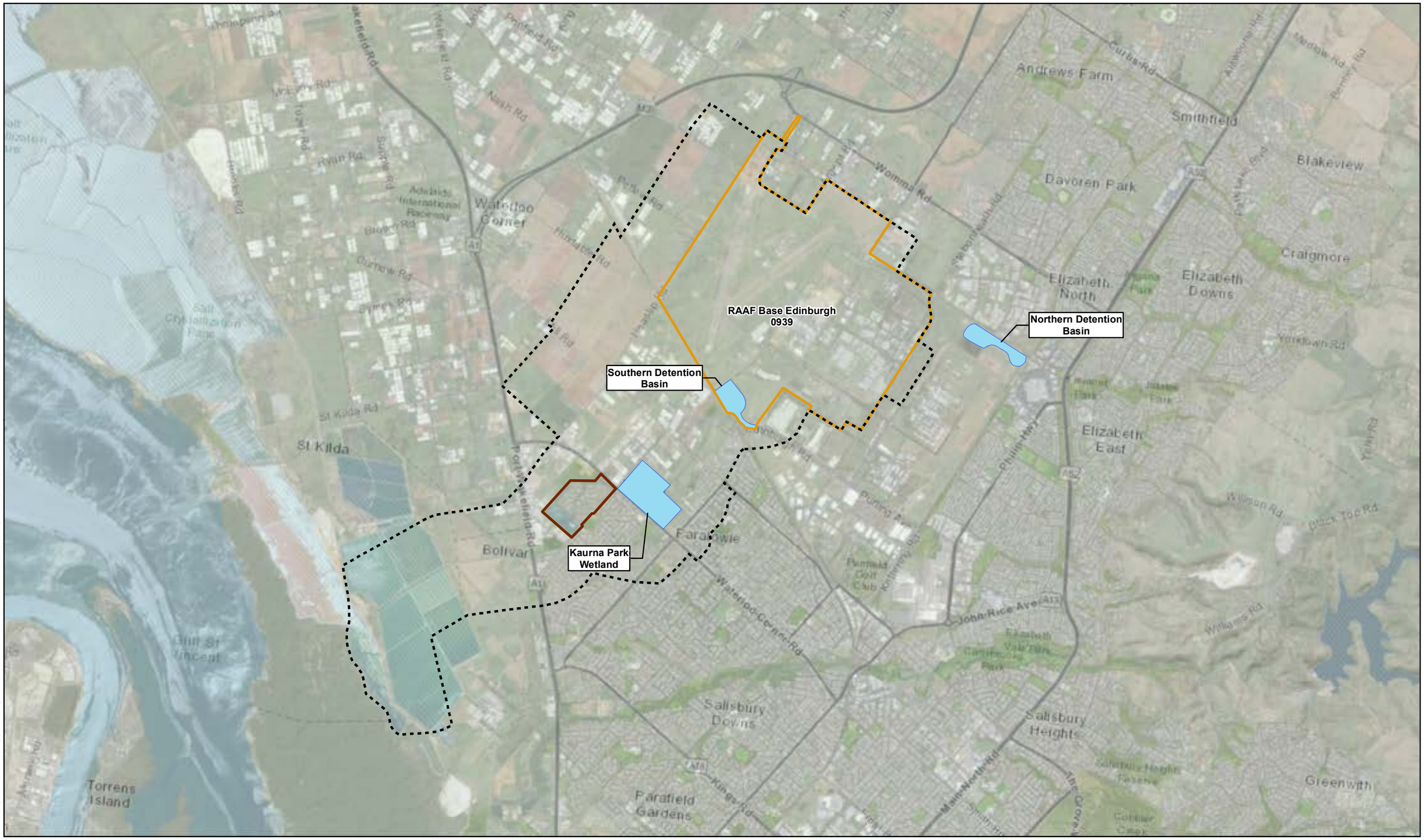
HEPA. (2020). *PFAS National Environmental Management Plan.*

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

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

Appendix A

Figures



AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometers

1:55,000 (when printed at A3)

Legend

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH
SAMPLING ANALYSIS QUALITY PLAN

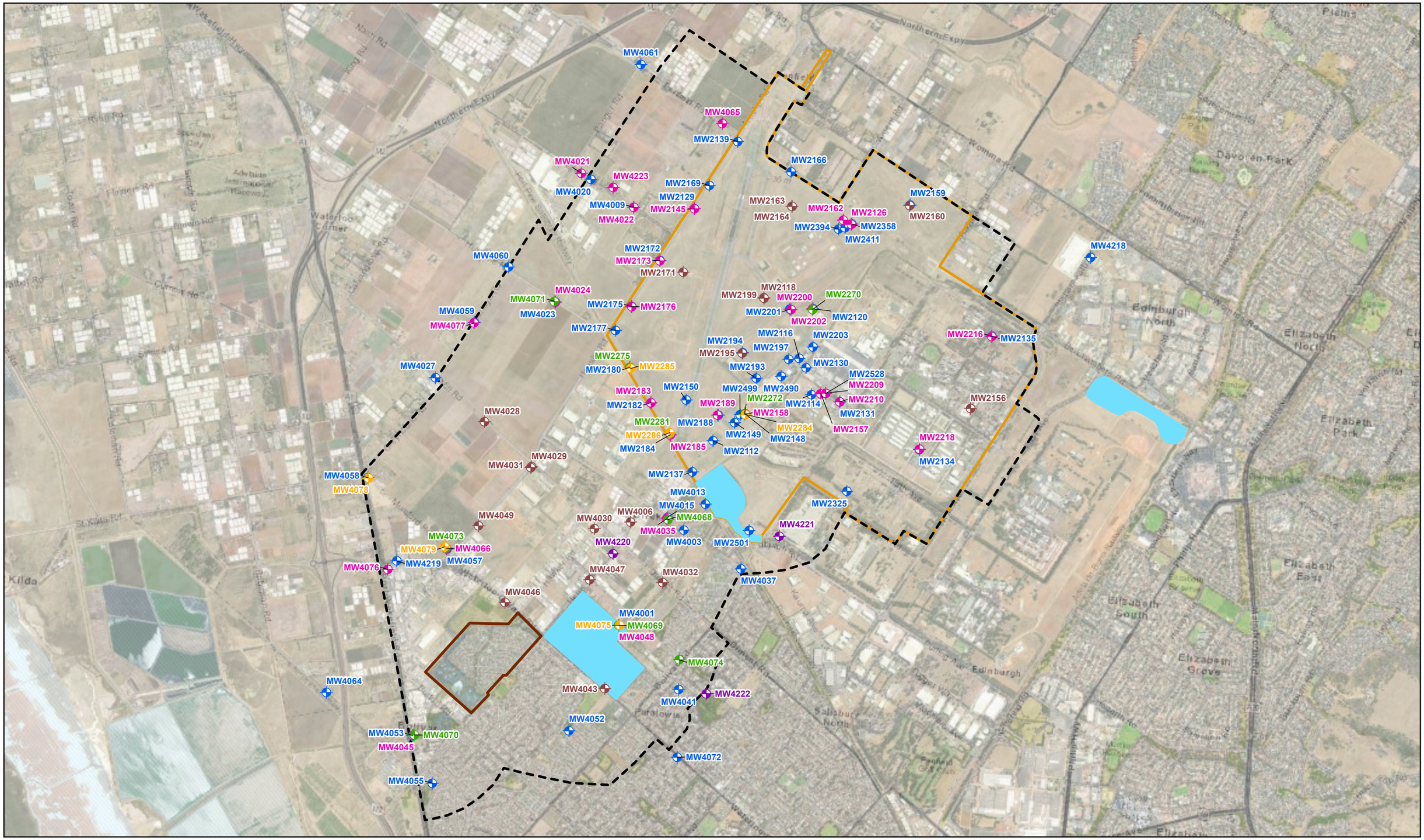
SITE LOCATION

PROJECT ID	60549059
CREATED BY	JD
LAST MODIFIED	[redacted] Feb 2020
VERSION:	1

Figure
1

Filename: G:\TSV_GIS\Projects\60612561_Darwin_Defi\02_MXDs\RAAF Base Edinburgh\02_MXDs\60612561_F01_RAAFBaseEdinburgh_SiteLocation_A3L_.mxd

A3 size



AECOM

www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.425 0.85 1.7

Kilometers

1:35,000 (when printed at A3)

Legend

- Gauging Locations Only

Sample Locations

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

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH
PFAS ONGOING MONITORING PROGRAM

GROUNDWATER SAMPLE LOCATIONS

PROJECT ID	60612561
CREATED BY	[redacted]
LAST MODIFIED	[redacted] JUN 2021
VERSION:	1

Figure 2

Filename: \\AUDWN1FP001\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2020\KD_20200924\60612561_RAAF_Edinburgh\60612561_RAAF_Edinburgh_v2.aprx

A3 size

RAAF Base Edinburgh
0939

SW003
SW028
SW029
SW017
SW037
SW018
SW019
SW021
SW006
SW012
SW054
SW050
SW032
SW009
SW033
SW078
SW011
SW010
SW058
SW059
SW062

Northern Detention Basin

Southern Detention Basin

Kaurna Park Wetland

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2

Kilometers

1:45,000 (when printed at A3)

Legend

Surface Water Sample Locations

Type

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH
SAMPLING ANALYSIS QUALITY PLAN

SURFACE WATER SAMPLE LOCATIONS

PROJECT ID	60549059
CREATED BY	JD
LAST MODIFIED	[redacted] Feb 2020
VERSION:	

Figure 3

Filename: G:\TSV_GIS\Projects\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\60612561_F03_RAAFBaseEdinburgh_SurfaceWater_A3L_.mxd

A3 size

Appendix B

Monitoring Location Details

Table B-1 RAAF Edinburgh groundwater sampling locations

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

D R A F T

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

D R A F T

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

D R A F T

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

D R A F T

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

D R A F T

Table B-2 RAAF Edinburgh groundwater gauging locations

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

D R A F T

Table B-3 RAAF Edinburgh surface water sampling locations

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

Appendix C

Factual Reports

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

DRAFT

Sampling Event Factual Report, January and February 2022

PFAS OMP - RAAF Base Edinburgh

27-Sep-2022
PFAS Ongoing Monitoring Plan

aecom.com

Delivering a better world

D R A F T

Sampling Event Factual Report, January and February 2022

PFAS OMP - RAAF Base Edinburgh

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

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Level 3, 9 Cavenagh Street, Darwin NT 0800, GPO Box 3175, Darwin NT 0801, Australia
T +61 8 8942 6200 F +61 8 8942 6299 www.aecom.com
ABN 20 093 846 925

27-Sep-2022

Job No.: 60612561

D R A F T

Quality Information

Document Sampling Event Factual Report, January and February 2022

Ref 60612561_0939_EDN_RP_20220927_Rev0.docx

Date 27-Sep-2022

Prepared by [redacted]

Reviewed by [redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	27-Sep-2022	Final	[redacted] Principal Environmental Scientist	[redacted]

D R A F T

Table of Contents

Abbreviations 1
1.0 Introduction 1
1.1 General 1
1.2 Objectives 1
2.0 Scope of Work 2
2.1 Deviations from the SAQP 4
3.0 Methodology 5
3.1 Adopted Screening Criteria 6
3.2 Data Quality Objectives and Data Validation 7
4.0 Field Observations and Results 8
4.1 General Field Observations 8
4.2 Groundwater 8
4.2.1 Field Observations and Field Measurements 8
4.2.2 PFAS Groundwater Analytical Results 10
5.0 Summary and Next Sampling Events 11
5.1 Summary of Monitoring Event 11
5.2 Upcoming Sampling Events 11
5.3 Upcoming Annual Interpretive Report 11
6.0 References 12

Appendix A
Figures A

Appendix B
Tables B

Appendix C
Data Validation Reports C

Appendix D
Chain of Custody D

Appendix E
Laboratory Certificates E

Appendix F
Calibration Certificates F

List of Tables

Table 1 Groundwater Sampling Locations 3
Table 2 Groundwater Gauging Locations 4
Table 3 Deviations from the SAQP during sampling event for January/February 2022 4
Table 4 Sampling Methodology 5
Table 5 Summary of Adopted Screening Criteria 6
Table 6 General Field Observations 8
Table 7 Groundwater observations and field measurements 8
Table 8 Deviations from historical dataset 10
Table 9 Summary of Sampling Event 11

D R A F T

Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999
DCMM	Defence Contamination Management Manual
DEW	Department for Environment and Water
DO	Dissolved oxygen
DoH	Department of Health
EC	Electrical conductivity
FSANZ	Food Standards Australia and New Zealand
GPA	Groundwater Prohibition Area
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
mAHD	metres Australian Height Datum
mbtoc	metres below top of casing
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPC	National Environment Protection Council
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NTU	Nephelometric Turbidity Unit
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
Q1	Quaternary aquifer unit 1
RAN	Royal Australian Navy
SA EPA	South Australian Environment Protection Authority

D R A F T

Term	Description
SAQP	Sampling and Analysis Quality Plan
SWL	Standing water level
T1	Tertiary aquifer unit 1

D R A F T

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the *PFAS Management Area Plan (PMAP)* (Defence, 2019) at RAAF Base Edinburgh (the 'Base') in South Australia. The locations of the Base and Investigation Area are shown in **Figure 1.1**, **Appendix A** and PFAS source areas as outlined in the PMAP (Defence, 2019) are shown in **Figure 1.2, Appendix A**. A groundwater prohibition area (GPA) was gazetted by the South Australian Environmental Protection Agency (SA EPA) on 3 February 2022 and is largely coincident with the Management Area, as shown on **Figure 1.3**, **Appendix A**.

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

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

1.2 Objectives

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

The purpose of this PFAS OMP factual report is to summarise the scope of works and findings for the summer groundwater and surface water sampling event conducted in January and February 2022, specifically highlighting first time detections and/or first-time exceedances of adopted human health and ecological screening criteria for perfluorohexane sulfonic acid (PFHxS)+ perfluorooctane sulfonate (PFOS) and for perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *Defence PFAS OMP factual reports – interim guidance for preparation,* v0.2, May 2021 (Defence, 2021).

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

D R A F T

2.0 Scope of Work

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

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

- PFAS National Environmental Management Plan version 2.0 (PFAS NEMP 2.0) (HEPA, 2020)
- National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, (ASC NEPM)
- Defence Routine Environment Water Quality Monitoring Manual (Department of Defence, 2019)
- Defence Contamination Management Manual (DCMM) (Department of Defence, 2021)
- AS/NZ 5667:1998 Water quality – Sampling (AS/NZS, 1998)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2019)
- Relevant State regulatory guidelines.

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

- Obtaining access to two City of Salisbury operational bores, one Department for Environment and Water (DEW) monitoring bore and one private bore.
- Collection of groundwater samples (including gauging of groundwater levels), in January and February 2022 from 104 of 105 planned existing monitoring wells using Hydrasleeves™ (refer to **Table 1** below, and **Figure 2**, **Appendix A** for specific locations).
- Eighteen wells were gauged only to supplement the well network targeted for sampling to inform groundwater flow directions (refer **Table 2** below).
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples and rinsates, field blanks and trip blanks.
- Analysis of all samples for a suite of 28 PFAS analytes at the standard limit of reporting (LOR).
- Data management of the PFAS OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

D R A F T

Table 1 Groundwater Sampling Locations

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

D R A F T

Location Description	Aquifer	On-Base wells/bores	Off-base wells/bores	Number of wells/bores
			MW4037, MW4041, MW4052, MW4055, MW4059, MW4060, MW4061, MW4064, MW4072, MW4219*	
	Q2		MW4021, MW4022, MW4024, MW4076#, MW4077	
	Q3		MW4071	
Proximity to identified licensed groundwater users	Q1	-	MW4057, MW4058	Off-Base (9 locations)
	Q2		MW4065, MW4066	
	Q3		MW4069^, MW4073, MW4074,	
	Q4		MW4078, MW4079	
Tertiary Aquifer Bores	T1 (Tertiary aquifer unit 1)	-	MW21322, MW20327 (DEW) and MW22767	Off-Base (3 locations)
Private Property Bore	Q2	-	MW15586	Off-Base (1 location)

^Targeted wells are applicable to multiple investigation locations
#Location not accessed. See Table 3 for details.

* Wells MW4011 and MW4063 believed destroyed and replaced with wells MW4128 and MW4219, respectively.

Table 2 Groundwater Gauging Locations

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

2.1 Deviations from the SAQP

Some deviations from the SAQP occurred. Outlined in **Table 3** below are the deviations from the SAQP (AECOM, 2022) during this sampling event.

Table 3 Deviations from the SAQP during sampling event for January/February 2022

SAQP	January/February 2022 Sampling Event	Impact on OMP
Field parameters to be obtained from 105 groundwater locations	One groundwater sampling location, MW4076, was not accessed during the monitoring round as the location was submerged in pooled water.	Data gap resulting in a minor impact to the PFAS OMP.
Sampling of 21 surface water locations.	Surface water locations were not sampled during and post the January/February	Data gap resulting in a moderate impact to the PFAS OMP. Summer season data was collected the previous year and will

D R A F T

	2022 sampling event due to insufficient rainfall for sampling.	likely be collected the following dry season, which should still provide sufficient data to the overall Base trends analysis.

3.0 Methodology

The methodology adopted for the biannual groundwater and surface water sampling events was in accordance with the SAQP (AECOM, 2022) and is summarised below in **Table 4**:

Table 4 Sampling Methodology

Item	January/February 2021 Sampling Events
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples using an interface probe.
Field parameters	**Groundwater** Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all groundwater samples. Groundwater field parameters were obtained after sampling by retrieving groundwater via Hydrasleeve™ samplers for measurement with a water quality meter. Field parameters and observations were collected electronically using AECOM's environmental data collection and analysis (EDCA) tool. Observations collected in the field are presented in **Table T1** in **Appendix B**. Calibration certificates are presented in **Appendix F**.
Sample collection	**Groundwater** Groundwater samples were collected from accessible monitoring wells using no-purge methodology via HydraSleeves™, with the exception of wells MW4221, MW4222 and MW4223, which are permanently fitted with headworks and were sampled via a tap. Where not already in place from the previous sampling round, HydraSleeves™ were installed within the screened interval and 1 m from the base of the well for a minimum of 24 hours prior to the sampling round. This was based on a review of the well construction log, screened intervals for each location are shown in **Table T1, Appendix B**. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. Groundwater samples obtained through a tap were collected by placing the laboratory sample bottle beneath the tap after the tap had run for 1-2 minutes to flush out the line/extraction pump.
QAQC samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), field blanks and rinsate samples. Refer to **Appendix C** for assessment of QAQC sample data.

Item	January/February 2021 Sampling Events
Sample analysis	Samples were submitted to the primary and secondary laboratories for analysis for the extended suite of PFAS, major ions, dissolved organic carbon and total suspended solids. ALS Environmental (ALS) Sydney, NSW was used as the primary laboratory. National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses were certified by the National Association of Testing Authorities (NATA). Chain of custody documents are presented in **Appendix D** and laboratory certificates are presented in **Appendix E**.

3.1 Adopted Screening Criteria

Screening criteria were selected on the basis of national guidance in the form of the PFAS National Environmental Management Plan, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset includes the following:

- Department of Health (DoH), 2019. Health Based Guidance Values for PFAS for use in site investigations in Australia. April 2017 [updated September 2019].
- Heads of the Environment Protection Authority (HEPA), (2020), PFAS National Environmental Management Plan (NEMP). January 2020.
- Food Standards Australia New Zealand (FSANZ), 2017. Perfluorinated Chemicals in Food (FSANZ, 2017).
- National Health and Medical Research Council (NHMRC), 2019. Guidance on PFAS in Recreational Water. August 2019 (NHMRC 2019).
- National Environment Protection (Assessment of Site Contamination) Measure, 1999, Schedule B1.

The screening criteria which have been adopted are presented **Table 5** below.

Table 5 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water - groundwater	PFOS + PFHxS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). Where the guideline value refers to the sum of PFOS + PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). *All groundwater results will be compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use	PFOS + PFHxS	2 µg/L	The values presented in the PFAS NEMP, 2020 are from NHMRC 2019, which published final health-based guidance values for PFAS for use in site investigations in Australia.
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2020). *All surface water and groundwater results will be compared to these criteria.*
	PFOA	220 µg/L	

PFOS + PFHxS: Perfluorooctanesulfonic acid and Perfluorohexanesulfonic acid
PFOA: Perfluorooctanoic acid

D R A F T

3.2 Data Quality Objectives and Data Validation

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

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

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

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

D R A F T

4.0 Field Observations and Results

4.1 General Field Observations

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

Table 6 General Field Observations

Item	Observation
Weather conditions	Weather was observed to be partly cloudy and ranged from cool to hot conditions (20°C to 35°C) during the groundwater sampling event in January and February 2022. No rainfall occurred during the sampling event and insufficient rainfall was recorded in the weeks following for adequate volume to sample.
Estate Management Works or Training Activities	During the sampling event, no notable estate works, or training activities were observed in the vicinity of sampling locations with the exception of the following: • Flight training activities undertaken airside. • Soil (Ventia) and groundwater (Enviropacific) remediation activity, i.e. soil washing and immobilisation and groundwater washing. Due to the nature and location of these works within the groundwater sampling network, the works are not expected to affect data or samples collected within the sampling program or interpretations made for the Base at the time of sampling. Assessments to date of sampling locations in source area P9 indicate that PFAS concentrations in the Q1 and Q2 aquifers are generally stable and increasing trends were observed in the Q3 and Q4 aquifers, however these trends may be associated with system and/or well installation. The potential for remediation works in source area P9 (groundwater extraction for remediation and on-going soil remediation) will continue to be assessed in the Annual Interpretive Report for 2022. As the results for this sampling event are generally consistent with previous rounds, estate management activities or training activities that may have occurred prior to the sampling event do not appear to have had an impact.

4.2 Groundwater

4.2.1 Field Observations and Field Measurements

Table 7 Groundwater observations and field measurements

Item	Observations and field measurements
Fieldwork dates	Groundwater sampling was completed between 31 January and 4 February 2022.
Access and sample collection	All monitoring wells and bores were accessible, with the exception of the following: • MW4076 was not accessed due to being submerged in pooled water. • Bores MW4221, MW4222 and MW4223 were sampled from a tap; headworks or infrastructure present restricted access to gauge groundwater levels at these bores. A key obtained from DEW was required to access DEW bore MW4220. Council of Salisbury bores MW4221 and MW4222 required council escort for access.
Monitoring well network	The monitoring well network was generally in good condition and unchanged from the previous round with deviations noted in **Section 2.1**.
Contamination Observations	No visible or olfactory indications of contamination were observed during sampling.

Item	Observations and field measurements
Depth to groundwater and flow direction	Depth to groundwater for each aquifer ranged between: • Q1: 4.55 (MW4064) and 14.494 (MW4218) meters Australian Height Datum (m AHD). • Q2: 6.526 (MW4045) and 21.88 (MW2216) m AHD. • Q3: 2.99 (MW4068) and (MW2270) m AHD. • Q4: -2.577 (MW4078) and 8.196 (MW2284) m AHD. • T1: MW4220 was the only monitoring well available for gauging attributed to this aquifer, however, there is no top of casing (TOC) data available to calculate a corrected groundwater elevation. As per the SAQP (AECOM, 2022), wells representing the Q3 and Q4 aquifers were gauged within a 24-hour period and wells representing the Q1 and Q2 aquifers were gauged within 5 days. Groundwater gauging data is presented in **Table T1, Appendix B**. Inferred groundwater contours and groundwater flow directions at the Base are shown on **Figure 3.1**, **3.2**, **3.3** and **3.4** in **Appendix A**. Inferred groundwater contouring suggests that groundwater generally flows to the southwest across all quaternary aquifers, although with significant local variation in the Q1 aquifer associated with influence from surface water bodies. Insufficient data is available to generate groundwater contours for the T1 aquifer. These observations are generally consistent with previous collected groundwater data used for interpretation of groundwater flow direction.
Geochemical parameters	Groundwater geochemical parameters were measured after to collecting groundwater samples. The readings are presented in **Table T1** in **Appendix B**, and are summarised below: • Dissolved oxygen (mg/L): - Q1: 1.02 (MW2150) to 7.91 (MW4072) - Q2: 0.37 (MW2202) to 5.63 (MW4024) - Q3: 0.1 (MW2270) to 5.83 (MW4074) - Q4: 1.26 (MW2285) to 5.51 (MW4079) - T1: 1.02 (MW4222) to 3.45 (MW4221) • Electrical conductivity (µS/cm): - Q1: 932.7 (MW2112) to 28,683.2 (MW4023) - Q2: 1,055.8 (MW4048) to 29,493.9 (MW2173) - Q3: 2,541 (MW4074) to 11,306.3 (MW2281) - Q4: 3089.2 (MW2286) to 18,264 (MW4078) - T1: 1,339 (MW4222) to 2,005 (MW4221) • pH: - Q1: 6.39 (MW2137) to 9.61 (MW2148) - Q2: 6.75 (MW2185) to 10.08 (MW2200) - Q3: 6.72 (MW2281) to 11.91 (MW2272) - Q4: 6.10 (MW4078) to 12.22 (MW4079) - T1: 7.40 (MW4222) to 8.72 (MW4220) • Redox (mV): - Q1: -250.3 (MW2394) to 211.2 (MW2137) - Q2: -206.5 (MW2157) to 181.3 (MW2185) - Q3: -215.6 (MW4071) to 171.8 (MW2162) - Q4: -230.8 (MW2286) to 184.0 (MW4078) - T1: -149.6 (MW4220) to -49.1 (MW4221)

4.2.2 PFAS Groundwater Analytical Results

The PFAS groundwater analytical results from the January and February 2022 sampling event are presented in **Table T2** in **Appendix B**. Of the 104 groundwater wells sampled during this event, 76 samples reported concentrations of PFAS compounds above the laboratory LOR.

PFHxS+PFOS concentrations across on-Base locations ranged between 0.02 µg/L (MW2173) and 8,860 µg/L (MW2116) and for off-base locations ranged between below the laboratory LOR (<0.01) at 20 locations and 9.68 µg/L (MW4015).

PFOA concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at 21 locations and 9.66 µg/L (MW2197) and for off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at 26 locations and 0.22 µg/L (MW4003).

New maximum values for PFHxS+PFOS were reported at MW2114, MW2185, MW2270, MW4074 and MW4075.

New maximum values for PFOA were reported at MW2114, MW2183, MW2185, MW2270, MW2284 and MW4075.

One first time exceedance of the PFAS NEMP drinking water guideline was reported at off-base location MW4074 (0.09 µg/L). This deviation from the historical data set is recorded in **Table 8** below and shown graphically on **Figure 4**, **Appendix A**.

It is noted that analytical results for MW2218 and MW4218 may have been swapped during laboratory processing. The laboratory could not confirm whether or not a switch in bottles during intake processing occurred. Field notes obtained during the sampling event indicate that the sample IDs and sample bottles were not misidentified during the sampling event. Results from the next round of sampling (July 2022) will be used to inform whether the data reported for these two locations during the January/February monitoring event is accurate or if a processing error likely occurred.

Table 8 Deviations from historical dataset

Deviation Type	Location	PFHxS+PFOS concentration (ug/L)		PFOS concentration (ug/L)		PFOA concentration (ug/L)	
		February 2022	Previous maximum	February 2022	Previous maximum	February 2021	Previous maximum
First time exceedance of PFAS NEMP drinking water guideline	MW4074 (off-Base)	0.09	0.03	0.09	0.03	<0.01	<0.01

	Yellow cells denote new exceedance of human health screening criteria.

D R A F T

5.0 Summary and Next Sampling Events

5.1 Summary of Monitoring Event

The biannual groundwater monitoring event was completed at the Base, publicly accessible land and on a private property within the Management Area between 31 January and 4 February 2022. The program included:

- gauging and sampling of groundwater from 104 monitoring wells and bores.
- gauging of an additional 18 monitoring wells.

Table 9 summarises the findings of the January and February 2022 sampling event and recommended actions.

Table 9 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	Location MW4076 was not accessed due to being submerged in pooled water. No surface water locations were sampled due to insufficient rainfall during the monitoring event.	Continue monitoring in accordance with the PFAS OMP.
Monitoring well network condition	The monitoring well network was generally in good condition and unchanged from the previous round. Damaged bolts were noted at MW4060 and were replaced during sampling.	No action required
Analytical Results	PFAS concentrations were recorded above the LOR at 76 of 104 sampled groundwater monitoring locations.	No action required
First time detection of PFOA or PFHxS+PFOS in groundwater or surface water	**Groundwater** No first-time detections above the LOR were recorded for PFOA or PFHxS+PFOS.	Continue monitoring in accordance with the PFAS OMP.
First time exceedance of screening criteria.	**Groundwater** A first-time exceedance of screening criteria was recorded in groundwater at MW074 (0.09 µg/L).	Defence notified and a S83a notification issued to the SA EPA. Continue monitoring in accordance with the PFAS OMP.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for July/August 2022.

5.3 Upcoming Annual Interpretive Report

The next annual interpretive report is scheduled to be delivered in November 2022.

D R A F T

6.0 References

AECOM Australia Pty Ltd (AECOM), 2021, *Sampling Analysis and Quality Plan - RAAF Base Edinburgh* prepared for Department of Defence, issued 3 February 2022.

Australian and New Zealand Guidelines (ANZG), 2018, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality.* Australian and New Zealand Governments and Australian state and territory governments

Australian/New Zealand (AS/NZ), 1998, *Water Quality Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handing of samples*.

Bureau of Meteorology, 2021, *Edinburgh RAAF (station number 023083) Daily Rainfall*, viewed 25.02.2021, <http://www.bom.gov.au/climate/data/?ref=ftr>

National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM)

Department of Defence (Defence), 2016, *Routine Environment Water Quality Monitoring Manual.*

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

Department of Defence (Defence), 2018 (amended June 2021), *Defence Contamination Management Manual.*

Department of Defence, 2018, *Contamination Management Manual,* amended June 2021

Department of Defence, 2021, *PFAS OMP Factual Report Guidance*, v0.2

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

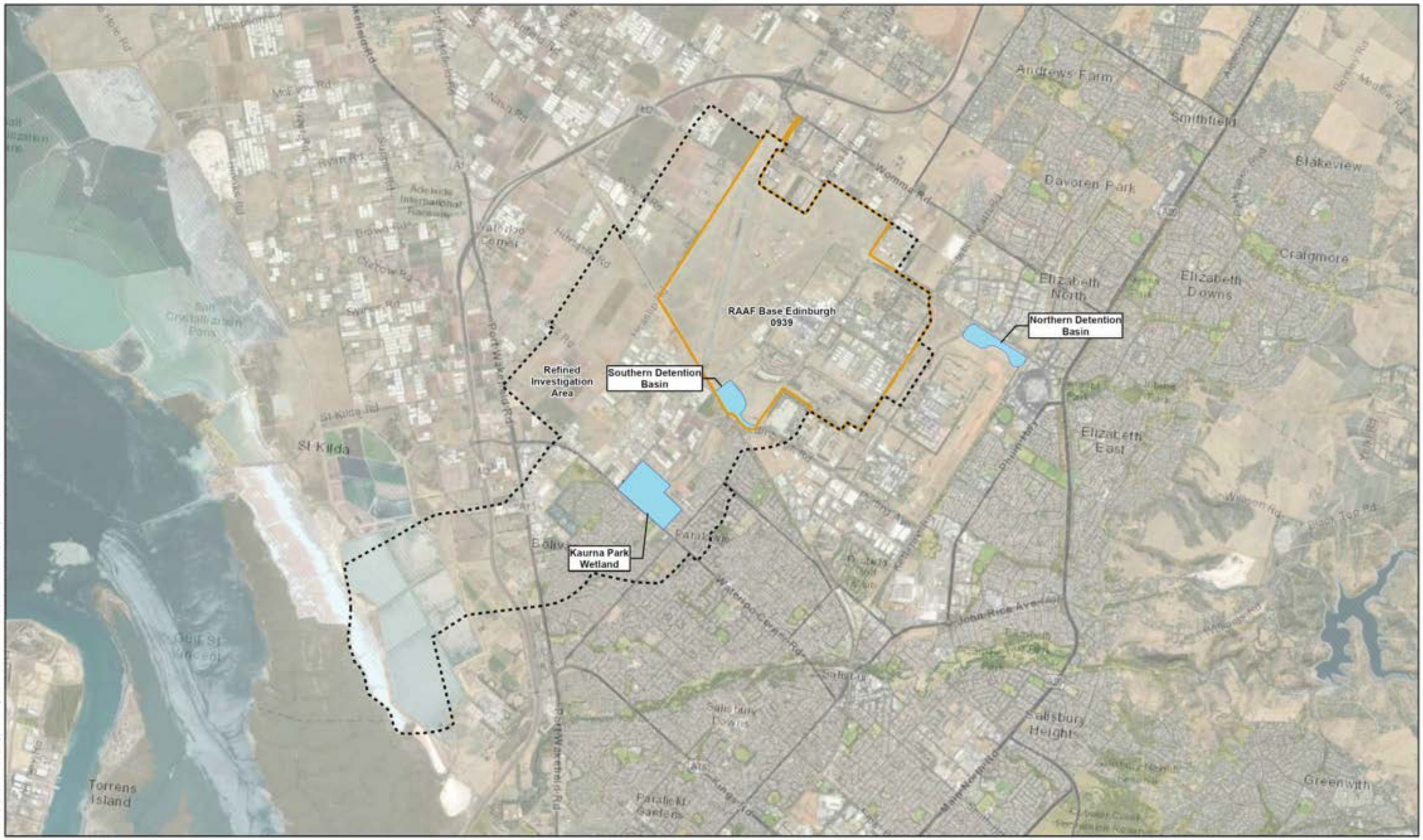
Heads of EPAs Australia and New Zealand (HEPA), 2020, *PFAS National Environmental Management Plan Version 2.0* January 2020 (PFAS NEMP 2.0).

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

National Health and Medical Research Council (NHMRC), 2016, *Australian Drinking Water Guidelines (ADWG)*

Appendix A

Figures



AECOM

www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2

Kilometers

1:55,000 (when printed at A3)

Legend

- Detention Basin
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 Esri

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022

SITE LOCATION

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

Figure 1.1

A3 size

AECOM

www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.225 0.45 0.9

Kilometers

1:18,000 (when printed at A3)

Legend

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022

INFERRED PFAS SOURCE AREAS

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

Figure 1.2

A3 size

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_SourceArea_Fig1.2, Last exported: 6/08/2021 2:58 PM

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometres

1:35,000 (when printed at A3)

Legend

- Gauging Locations Only

Sample Locations

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

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022

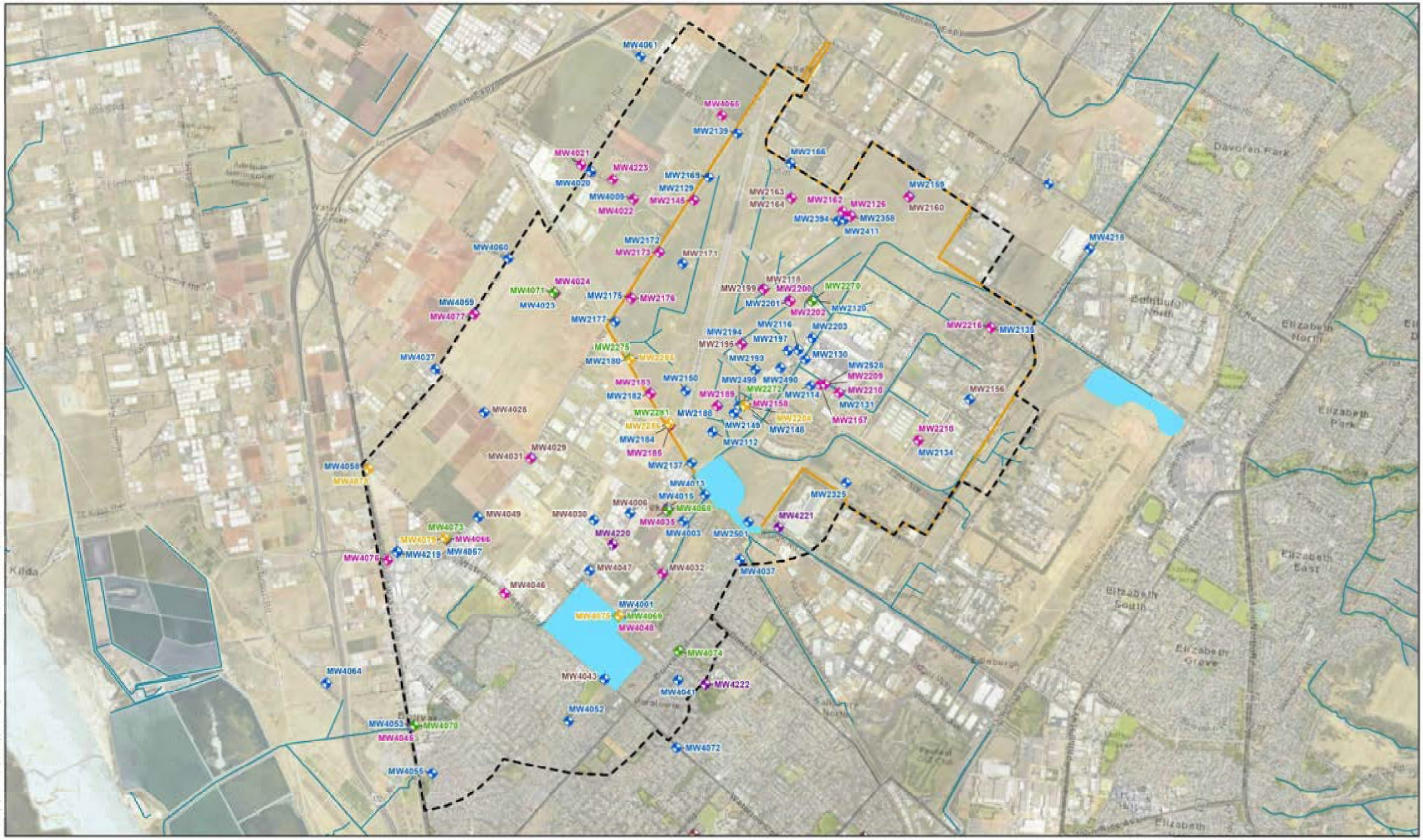
GROUNDWATER PROHIBITION AREA

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

Figure
1.3

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_GWProhibitationArea_Fig1.3, Last exported: 22/03/2022 10:19 AM

A3 size



AECOM

www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2

Kilometres

1:35,000 (when printed at A3)

Legend

- Gauging Locations Only

Sample Locations

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

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022

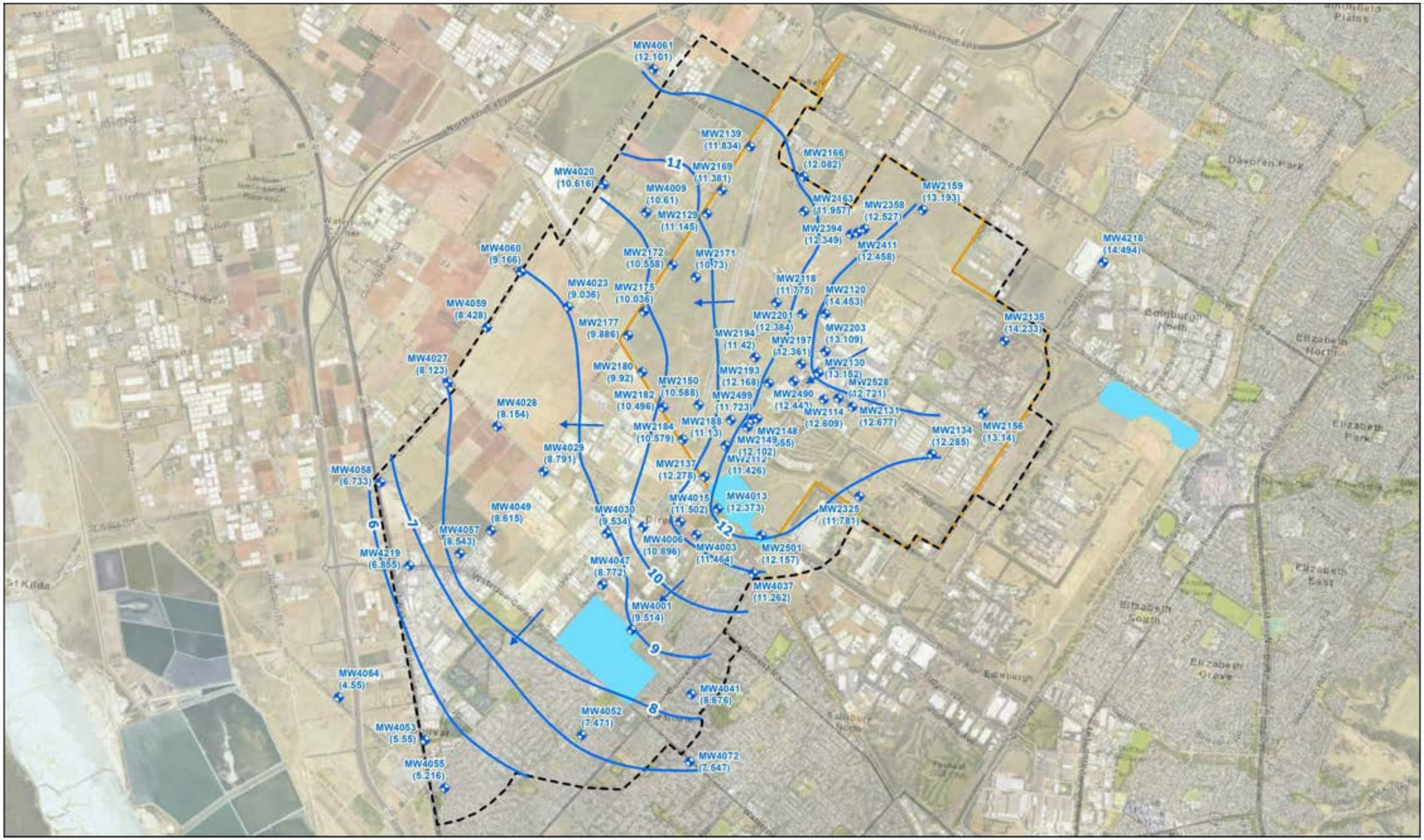
GROUNDWATER SAMPLE LOCATIONS

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

Figure 2

A3 size

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\600 CAD GIS\620 GIS\60612561 Darwin Dell\02 MXDs\RAAF Base Edinburgh\02 MXDs\2022\60612561 RAAF Edinburgh JanFeb 2022\60612561 RAAF Edinburgh JanFeb 2022.aprx (rob mcgregor), Layout: 60612561 JanFeb Report GWSampleLoc Fig2, Last exported: 22/03/2022 10:19 AM



Legend

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

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometres

1:35,000 (when printed at A3)

Data sources:
Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022
Inferred Groundwater Elevation Q1 Monitoring Wells, January 2022

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

Figure 3.1

A3 size

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_GWL_Q1_2022_Fig3.1, Last exported: 21/12/2021 11:33 AM

MW4065 (11.865)
MW4021 (10.509)
MW4022 (10.705)
MW2145 (11.185)
MW2164 (11.997)
MW2160 (7.229)
MW2126 (12.533)
MW2162 (12.364)
MW2173 (10.56)
MW4024 (9.044)
MW2176 (10.004)
MW4077 (8.437)
MW2199 (11.832)
MW2200 (12.474)
MW2216 (13.338)
MW2195 (11.487)
MW2202 (12.42)
MW2209 (12.649)
MW2157 (12.674)
MW2210 (12.567)
MW2189 (11.173)
MW2158 (11.638)
MW2183 (10.25)
MW2218 (12.235)
MW2185 (10.586)
MW4031 (8.72)
MW4035 (11.013)
MW4066 (8.473)
MW4032 (10.008)
MW4046 (7.9)
MW4048 (9.229)
MW4045 (6.526)
6
7
8
9
10
11
12
St Kilda
Davoren Park
Edinburgh North
Elizabeth North
Elizabeth Park
Elizabeth East
Elizabeth South
Elizabeth Grove
Edinburgh
Salisbury North
Parafield
Elizabeth

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometres

1:35,000 (when printed at A3)

Legend

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022
Inferred Groundwater Elevation Q2 Monitoring Wells, January 2022

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

Figure 3.2

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_GWL_Q2_2022_Fig3.2, Last exported: 21/12/2021 11:33 AM

A3 size

MW4071 (9.094)
MW2270 (11.887)
MW2275 (7.897)
MW2272 (8.36)
MW2281 (8.54)
MW4068 (2.99)
MW4073 (7.898)
MW4069 (9.12)
MW4074 (9.354)
MW4070 (5.61)

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometres

1:35,000 (when printed at A3)

Legend

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

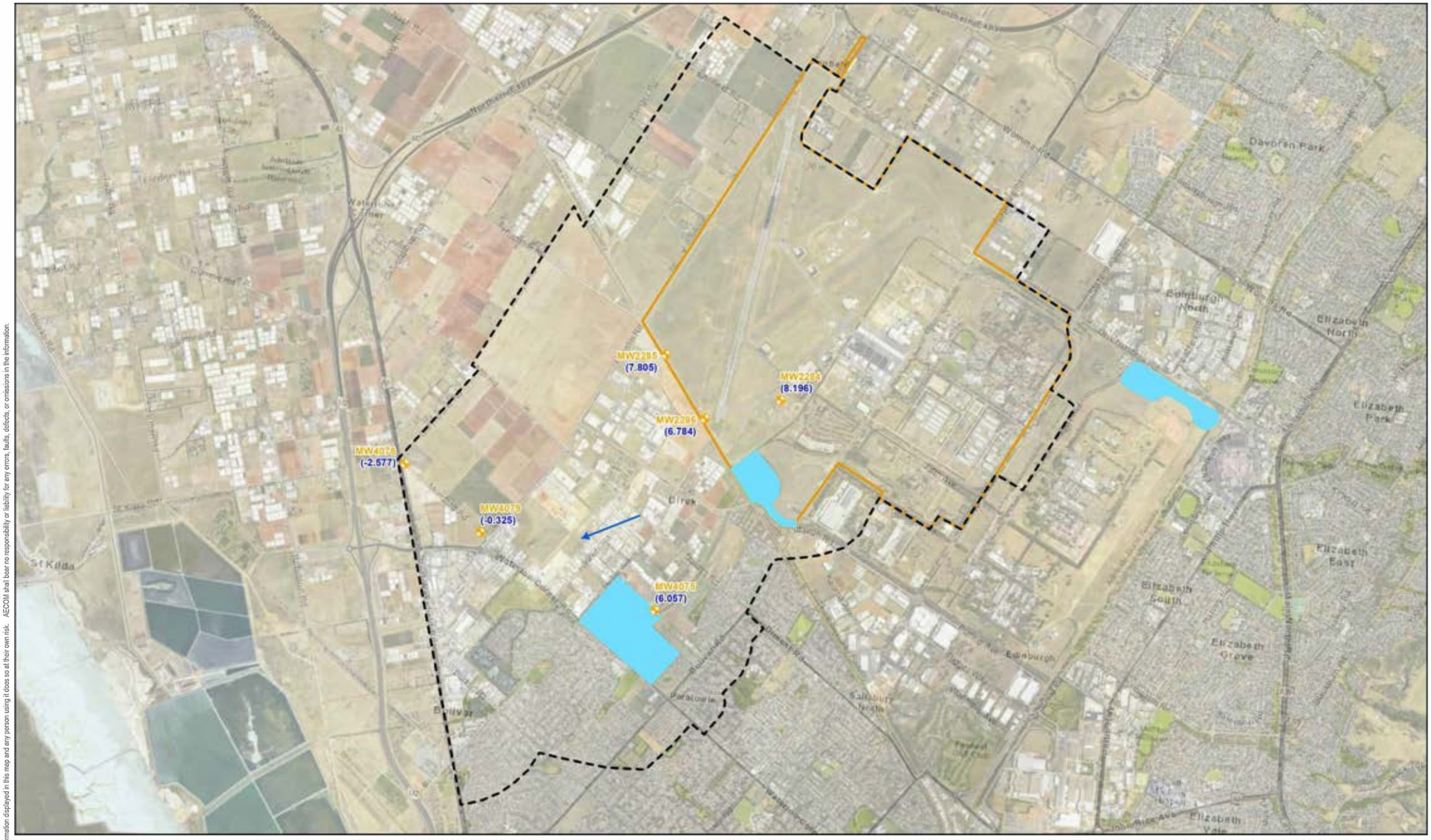
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022
Inferred Groundwater Elevation Q3 Monitoring Wells, January 2022

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

Figure 3.3

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_GWL_Q3_2022_Fig3.3, Last exported: 21/12/2021 11:33 AM

A3 size



AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.

AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometres

1:35,000 (when printed at A3)

Legend

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

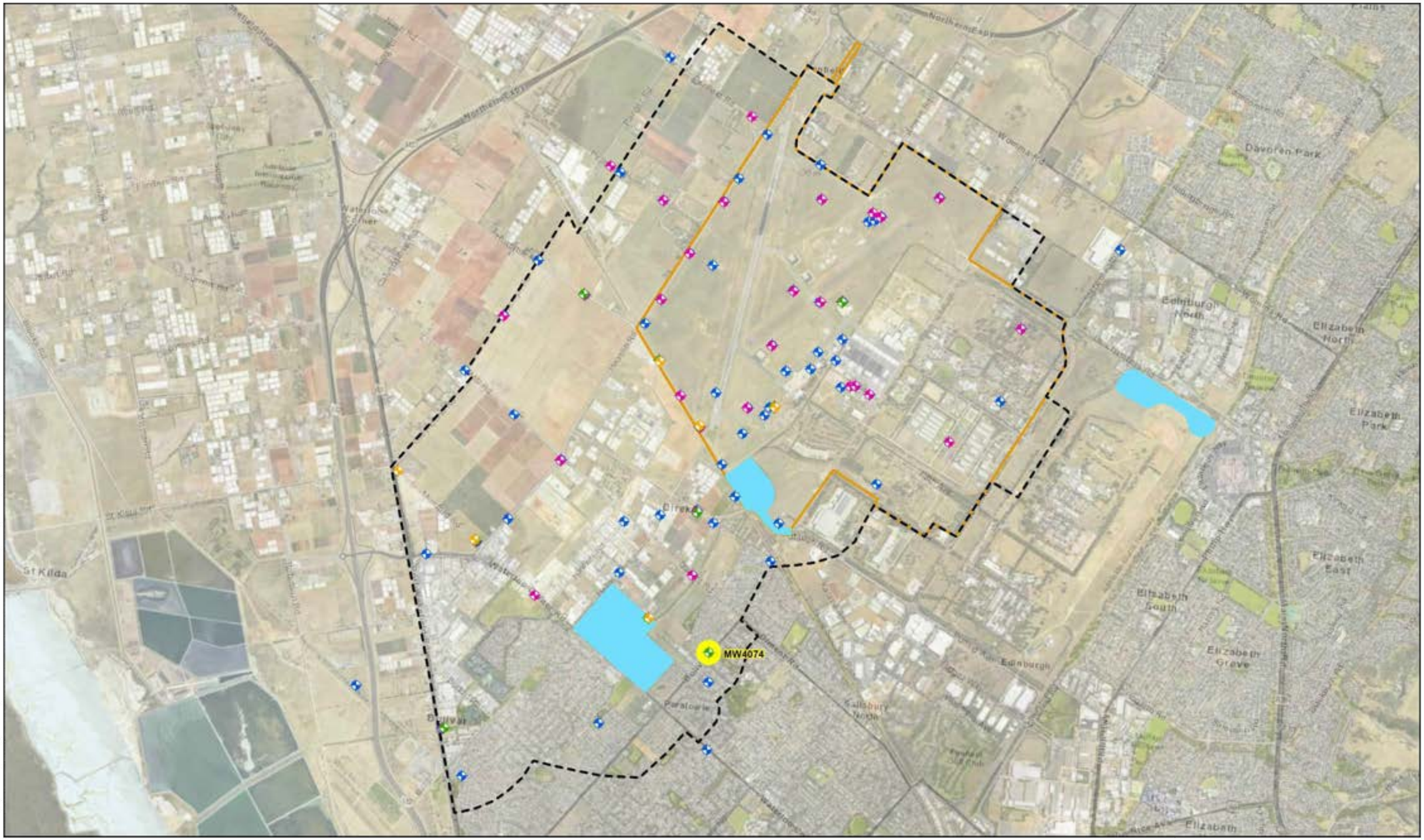
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022
Inferred Groundwater Elevation Q4 Monitoring Wells, January 2022

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

Figure 3.4

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_GWL_Q4_2022_Fig3.4, Last exported: 21/12/2021 11:33 AM

A3 size



AECOM
www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2
Kilometres

1:35,000 (when printed at A3)

Legend

Sample Locations

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

Denotes new exceedence of human health screening criteria

Management Area

RAAF Base Edinburgh Boundary

Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, January and February 2022

GROUNDWATER RESULTS DEVIATIONS FROM HISTORICAL DATA

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

Figure 4

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_JanFeb_2022\60612561_RAAF_Edinburgh_JanFeb_2022.aprx (rob.mcgregor), Layout: 60612561_JanFeb_Report_GWDevHistoricalData_Fig4, Last exported: 21/12/2021 11:24 AM

A3 size

Appendix B

Tables

Table T1 - Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW2112	01/02/2022	Q1	8.49	5.34 - 8.34	15.877	4.451	11.426	Good condition	6.3	8.35	932.7	606.255	3.54	24.6	-103.5	Light Brown, Low Turbidity, No odour
MW2114	01/02/2022	Q1	9	5.86 - 8.86	17.697	5.088	12.609	Good condition	6.9	7.42	14371.1	9341.215	3.84	20.84	-43.1	Light Brown, Low Turbidity, No odour
MW2116	04/02/2022	Q1	8.4	6.03 - 9.03	16.978	4.39	12.588	Good condition	6.3	7.62	5945.9	3864.835	1.54	20.66	-19.9	Light Brown, Medium Turbidity, No odour
MW2118	01/02/2022	Q1	8.79	5.95 - 8.95	17.329	5.554	11.775	Good condition	6.8	Gauge only						
MW2120	31/01/2022	Q1	6.22	3.25 - 6.25	18.18	3.727	14.453	Good condition	4.2	7.65	1165	757.25	3.3	25.87	-52.4	Light Brown, Low Turbidity, No odour
MW2126	01/02/2022	Q2	17.28	14.28 - 17.28	20.151	7.618	12.533	Good condition	15.5	7.16	11493.8	7470.97	4.07	21.62	62.4	Clear, Turbid, No odour
MW2129	31/01/2022	Q1	6.39	3.37 - 6.37	15.881	4.736	11.145	Good condition	4.4	7.87	4419.3	2872.545	1.32	28.36	-27.5	Black / Grey, Low Turbidity, No odour
MW2130	01/02/2022	Q1	8.22	5.38 - 8.38	17.483	4.331	13.152	Good condition	6.4	8.06	3011.7	1957.605	2.74	22.77	-3.5	Clear, Low Turbidity, No odour
MW2131	01/02/2022	Q1	8.55	5.45 - 8.45	18.058	5.381	12.677	Good condition	6.51	8.36	1114.1	724.165	3.68	21.92	-50.2	Light Brown, Low Turbidity, No odour
MW2134	02/02/2022	Q1	10.8	7.83 - 10.83	19.716	7.431	12.285	Good condition	8.89	7.21	11058.5	7188.025	3.95	21.46	-16.1	Clear, Low Turbidity, No odour
MW2135	02/02/2022	Q1	11	7.97 - 10.97	20.504	6.271	14.233	Good condition	9.8	7.2	10366.8	6738.42	2.54	18.88	8	Light Yellow, Low Turbidity, No odour
MW2137	31/01/2022	Q1	8.06	5.19 - 8.19	15.791	3.513	12.278	Good condition	6.01	6.39	2746.9	1785.485	3.05	24.44	211.2	Light Brown, Low Turbidity, No odour
MW2139	31/01/2022	Q1	11.3	8.33 - 11.33	18.653	6.819	11.834	Good condition	9.35	7.06	13655	8875.75	3.62	28.69	-47.3	Light Brown, Turbid, Organic Odour
MW2145	31/01/2022	Q2	25.35	22 - 25	15.84	4.655	11.185	Good condition	25.5	7.36	8394.6	5456.49	1.81	26.54	-191.5	Light Brown, Low Turbidity, No odour
MW2148	31/01/2022	Q1	10.4	7.36 - 10.36	16.49	4.835	11.655	Good condition	8.39	9.61	7402	4811.3	6.52	24.54	2.8	Light Brown, Low Turbidity, No odour
MW2149	01/02/2022	Q1	7.55	4.38 - 7.38	16.626	4.524	12.102	Good condition	5.3	7.91	4145.9	2694.835	7.4	21.91	-46.2	Light Brown, Medium Turbidity, No odour
MW2150	01/02/2022	Q1	8.17	4.97 - 7.97	14.873	4.285	10.588	Good condition	6.1	7.67	3315.7	2155.205	1.02	23.56	-64.5	Clear, Low Turbidity, No odour
MW2156	02/02/2022	Q1	9.14	6.05 - 9.05	19.773	6.633	13.14	Good condition	7.9	Gauge only						
MW2157	01/02/2022	Q2	18.5	15.23 - 18.23	17.777	5.103	12.674	Good condition	16.4	7.58	9296.3	6042.595	2.52	22.18	-206.5	Clear, Low Turbidity, No odour
MW2158	31/01/2022	Q2	17.8	14.85 - 17.85	16.498	4.86	11.638	Good condition	16.5	7.95	7878	5120.7	4.2	25.36	41.3	Light Brown, Low Turbidity, No odour
MW2159	02/02/2022	Q1	10.59	5.5 - 8.5	20.478	7.285	13.193	Good condition	7.4	7.63	11882.6	7723.69	2.06	21.77	-129.9	Light Grey, Low Turbidity, No odour
MW2160	02/02/2022	Q2	23.89	19.5 - 22.5	20.433	7.454	7.229	Good condition	21.6	Gauge only						
MW2162	01/02/2022	Q2	20.98	17 - 21	19.721	7.357	12.364	Good condition	19.2	7.05	11352.7	7379.255	3.79	21.85	-171.4	Light Grey, Low Turbidity, Slight Organic Odour
MW2163	01/02/2022	Q1	9.31	5.5 - 8.5	18.161	6.204	11.957	Good condition	7.4	Gauge only						
MW2164	01/02/2022	Q2	25.91	22.5 - 25.5	18.172	6.175	11.997	Good condition	25.3	Gauge only						
MW2166	31/01/2022	Q1	8.75	5 - 8	19.063	6.981	12.082	Good condition	6.1	7.04	12390.3	8053.695	1.76	26.01	-99.4	Black / Grey, Organic Odour
MW2169	31/01/2022	Q1	8	4.5 - 7.5	16.608	5.227	11.381	Good condition	6.3	7.35	11001.9	7151.235	2.79	26.79	-52.3	Brown, Turbid, No odour
MW2171	31/01/2022	Q1	10.05	6.2 - 9.5	16.471	5.741	10.73	Good condition	8.2	Gauge only						
MW2172	31/01/2022	Q1	10.27	6.5 - 9.5	15.828	5.27	10.558	Good condition	8.2	7.49	18313.6	11903.84	3.18	25.66	2.5	Clear, Low Turbidity, No odour
MW2173	31/01/2022	Q2	20.35	16.5 - 21	15.882	5.322	10.56	Good condition	18.6	7.06	29493.9	19171.035	2.19	25.36	-134.6	Black / Grey, Turbid, Organic Odour
MW2175	31/01/2022	Q1	9.15	5.3 - 8.3	14.438	4.402	10.036	Good condition	7.2	7.28	24814.8	16129.62	2.75	26.2	-43.2	Brown, Medium Turbidity, No odour
MW2176	31/01/2022	Q2	23.1	19.2 - 22.2	14.282	4.278	10.004	Good condition	21.4	6.98	28061.2	18239.78	2.54	26.38	-134.7	Clear, No odour
MW2177	31/01/2022	Q1	7.82	4.2 - 7.2	13.902	4.016	9.886	Good condition	5.9	7.76	13025.1	8466.315	2.97	25.8	36.8	Light Brown, Low Turbidity, No odour
MW2180	31/01/2022	Q1	10	4 - 10	14.195	4.275	9.92	Good condition	5.9	8.06	3240.9	2106.585	1.88	26.05	-43.6	Light Brown, Low Turbidity, No odour
MW2182	31/01/2022	Q1	6.98	4.1 - 10	13.821	3.325	10.496	Good condition	5.0	8.36	5900	3835	1.89	27.62	37.3	Brown, Turbid, No odour
MW2183	31/01/2022	Q2	19.7	16.2 - 20	14.831	4.581	10.25	Good condition	17.9	8.42	15477	10060.05	1.4	25.69	9.3	Brown, No odour
MW2184	31/01/2022	Q1	6.1	3.2 - 8.3	14.438	3.859	10.579	Good condition	4.1	7.69	1228	798.2	2.36	24.79	109.2	Brown, Turbid, No odour
MW2185	31/01/2022	Q2	18.74	16.5 - 18	15.286	4.7	10.586	Good condition	17.0	6.75	8093	5260.45	4.64	24.15	181.3	Yellow / Brown, Low Turbidity, No odour
MW2188	01/02/2022	Q1	5.51	2.5 - 5.5	15.46	4.33	11.13	Good condition	3.6	7.67	4601.2	2990.78	4.19	23.07	-12.9	Light Brown, Medium Turbidity, No odour

Table T1 - Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW2189	01/02/2022	Q2	20.69	17 - 21	15.201	4.028	11.173	Good condition	18.5	7.73	2903.2	1887.08	1.48	24.83	-184.8	Black / Grey, Low Turbidity, Slight Organic Odour
MW2193	31/01/2022	Q1	6.42	3.5 - 6.5	15.918	3.75	12.168	Good condition	4.4	7.85	5548	3606.2	2.53	26.15	-136.1	Brown, Medium Turbidity, No odour
MW2194	01/02/2022	Q1	9.34	7 - 10	15.31	3.89	11.42	Good condition	7.4	7.36	24421	15873.65	4.34	21.59	-45.5	Light Brown, Low Turbidity, No odour
MW2195	01/02/2022	Q2	23.21	19 - 24	16.05	4.563	11.487	Good condition	21.1						Gauge only	
MW2197	01/02/2022	Q1	8.06	4.5 - 7.5	17.642	5.281	12.361	Good condition	6.1	7.66	8862.8	5760.82	1.69	21.25	-106.5	Light Brown, Medium Turbidity, No odour
MW2199	01/02/2022	Q2	23.95	20 - 24	17.177	5.345	11.832	Good condition	22.2						Gauge only	
MW2200	31/01/2022	Q2	19.65	16.5 - 19.5	17.903	5.429	12.474	Good condition	17.6	10.08	10945.3	7114.445	3.55	28.01	-184.2	Light Brown, Medium Turbidity, No odour
MW2201	01/02/2022	Q1	9.82	7 - 10	16.395	4.011	12.384	Good condition	7.85	7.87	5044.5	3278.925	3.38	20.94	-148.2	Light Grey, Medium Turbidity, No odour
MW2202	01/02/2022	Q2	23.86	19 - 24	16.473	4.053	12.42	Good condition	22.3	7.25	12545	8154.25	.37	21.79	-172.7	Black / Grey, Turbid, Organic Odour
MW2203	31/01/2022	Q1	7.85	5 - 8	16.772	3.663	13.109	Good condition	5.9	8.6	5288.1	3437.265	2.78	26.06	-103.9	Light Brown, No odour
MW2209	01/02/2022	Q2	21.98	18.5 - 24	17.075	4.426	12.649	Good condition	19.8	7.35	8547.5	5555.875	2.83	21.44	-182.1	Light Brown, Low Turbidity, No odour
MW2210	01/02/2022	Q2	21.58	17.1 - 20.4	18.087	5.52	12.567	Good condition	19.5	7.47	7634.9	4962.685	1.44	22.52	-168	Light Brown, Low Turbidity, Slight Organic Odour
MW2216	02/02/2022	Q2	21.88	18 - 21	20.468	7.13	13.338	Good condition	20.2	7.25	6875.3	4468.945	2.97	19.93	-29.3	Clear, Low Turbidity, No odour
MW2218	02/02/2022	Q2	21.26	17 - 20.5	19.774	7.539	12.235	Good condition	19.2	7.49	7631.7	4960.605	4.56	19.89	-144.7	Clear, Low Turbidity, Slight Organic Odour
MW2270	31/01/2022	Q3	39.97	33 - 42	18.1	6.213	11.887	Good condition	37.5	6.92	10719.4	6967.61	.1	27.94	-90.6	Light Brown, Medium Turbidity, Organic Odour
MW2272	31/01/2022	Q3	42.1	36 - 42	16.499	8.139	8.36	Good condition	40.9	11.91	5916	3845.4	2.39	27.2	-83.4	Light Grey, Medium Turbidity, No odour
MW2275	31/01/2022	Q3	47.8	40.5 - 46.5	14.121	6.224	7.897	Good condition	46.1	7.18	8451.6	5493.54	1.93	27.76	-74.3	Light Brown, Medium Turbidity, No odour
MW2281	31/01/2022	Q3	39.67	35.5 - 39	15.229	6.689	8.54	Good condition	40.3	6.72	11306.3	7349.095	2.27	25.66	171.8	Clear, Low Turbidity, No odour
MW2284	31/01/2022	Q4	59.9	55 - 61	16.509	8.313	8.196	Good condition	58	10.73	4924	3200.6	2.22	27.65	-131.1	Clear, Low Turbidity, Slight Organic Odour
MW2285	31/01/2022	Q4	58	51 - 57	14.287	6.482	7.805	Good condition	56	7.48	6637.4	4314.31	1.26	30.55	-102.8	Black / Grey, Medium Turbidity, Organic Odour
MW2286	31/01/2022	Q4	52.34	51 - 57	15.323	8.539	6.784	Good condition	50.5	10.86	3089.2	2007.98	1.54	27.5	-230.8	Clear, Low Turbidity, No odour
MW2325	02/02/2022	Q1	10.9	7.9-10.9	19.127	7.346	11.781	Good condition	9.0	7.15	8673.2	5637.58	4.02	19.59	53.6	Light Brown, Low Turbidity, No odour
MW2358	01/02/2022	Q1	11.03	8.01 - 11.01	20.062	7.535	12.527	Good condition	9	6.95	11156.9	7251.985	2.98	21.15	-43.3	Light Brown, Medium Turbidity, No odour
MW2394	01/02/2022	Q1	11.71	8.74 - 11.74	18.788	6.439	12.349	Good condition	9.8	7.34	13483	8763.95	1.58	21.45	-250.3	Black, Turbid, Organic Odour
MW2411	01/02/2022	Q1	11.4	7.42 - 10.42	18.718	6.26	12.458	Good condition	9.5	7.2	11100	7215	1.22	20.72	-228	Light Grey, Low Turbidity, Organic Odour
MW2490	01/02/2022	Q1	8.53	4.6 - 7.6	17.58	5.137	12.443	Good condition	6.5	7.69	6238.4	4054.96	3.22	22.63	1.8	Light Brown, Medium Turbidity, No odour
MW2499	01/02/2022	Q1	7.92	6.06 - 9.06	15.769	4.046	11.723	Good condition	7.1	8.44	1446.7	940.355	7.06	21.21	-55.9	Light Brown, Medium Turbidity, No odour
MW2501	02/02/2022	Q1	10.75	7.61 - 10.61	15.673	3.516	12.157	Good condition	8.6	7.67	4250.2	2762.63	2.38	18.92	31	Light Brown, Medium Turbidity, No odour
MW2528	01/02/2022	Q1	9	6.06 - 9.06	17.181	4.46	12.721	Good condition	7.2	7.86	2718.6	1767.09	3.62	19.82	-127.5	Clear, Low Turbidity, Slight Organic Odour
MW4001	04/02/2022	Q1	9.55	6.56 - 9.56	12.909	3.395	9.514	Good condition	7.7	-	1532.6	996.19	3.36	19.06	-38	Clear, Low Turbidity, No odour. pH transcription error.
MW4003	03/02/2022	Q1	7.83	4.63 - 7.63	13.46	1.996	11.464	Good condition	5.8	7.8	7794.9	5066.685	2.51	21.64	-20.5	Light Brown, Low Turbidity, Slight Organic Odour
MW4006	03/02/2022	Q1	7.25	4.25 - 7.25	13.283	2.387	10.896	Good condition	5.3						Gauge only	
MW4009	02/02/2022	Q1	21.8	6.5 - 9.5	14.37	3.76	10.61	Good condition	6.8	7.24	6647.8	4321.07	3.27	22.24	-50	Brown, Turbid, No odour
MW4013	04/02/2022	Q1	5	3.95 - 6.95	13.123	0.75	12.373	Good condition	2.6	8.07	3028.9	1968.785	3.79	20.01	4.6	Clear, Low Turbidity, No odour
MW4015	03/02/2022	Q1	7	3.96 - 6.96	13.627	2.125	11.502	Good condition	4.9	8.45	4065	2642.25	2.77	21.85	-84.9	Clear, Low Turbidity, No odour
MW4020	02/02/2022	Q1	8.27	5.4 - 8.4	13.97	3.354	10.616	Good condition	6.4	7.25	6424.6	4175.99	5.82	21.92	38.7	Clear, Low Turbidity, No odour
MW4021	02/02/2022	Q2	17.85	15 - 18	13.697	3.188	10.509	Good condition	16.1	7.16	6258.9	4068.285	2.39	21.87	-23.4	Light Brown, Medium Turbidity, No odour
MW4022	02/02/2022	Q2	8.8	19 - 22.5	14.423	3.718	10.705	Good condition	19.8	7.29	8470.3	5505.695	4.14	22.41	10.8	Light Brown, Low Turbidity, No odour
MW4023	02/02/2022	Q1	8	5 - 8	11.855	2.819	9.036	Good condition	5.9	7.15	28683.2	18644.08	3	19.82	3	Light Brown, Medium Turbidity, No odour
MW4024	02/02/2022	Q2	15.78	15 - 21	11.895	2.851	9.044	Good condition	16.3	7.39	24353.2	15829.58	5.63	20.89	-65.8	Light Brown, Low Turbidity, No odour

Table T1 - Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW4027	02/02/2022	Q1	7.89	5 - 8	9.532	1.409	8.123		6.0	7.99	1081.2	702.78	1.84	20.64	-76.3	Grey / Brown, Turbid, No odour
MW4028	03/02/2022	Q1	7.92	5 - 8	10.396	2.242	8.154	Good condition	6						Gauge only	
MW4029	03/02/2022	Q1	8.41	5.5 - 8.5	11.916	3.125	8.791	Good condition	6.4						Gauge only	
MW4030	03/02/2022	Q1	8.37	5.3 - 8.5	11.755	2.221	9.534	Good condition	6.4						Gauge only	
MW4031	03/02/2022	Q2	23.12	21 - 24	11.831	3.111	8.72	Good condition	21.1						Gauge only	
MW4032	03/02/2022	Q2	9.52	16.5 - 19.5	12.948	2.94	10.008	Good condition	17.5						Gauge only	
MW4035	03/02/2022	Q2	22.65	19 - 22.5	13.735	2.722	11.013	Good condition	20.5	8.36	3187.6	2071.94	2.05	20.57	-121.4	Clear, Low Turbidity, No odour
MW4037	03/02/2022	Q1	8.15	5 - 8	15.193	3.931	11.262	Good condition	6.07	7.42	5987	3891.55	3.28	23.48	57.9	Clear, No odour
MW4041	03/02/2022	Q1	10.1	7 - 10	14.606	5.93	8.676	Good condition	8.07	7.36	4843	3147.95	2.44	22.48	79.2	Clear, Low Turbidity, No odour
MW4043	03/02/2022	Q2	7.92	5 - 10	12.125	4.15	7.975	Good condition	5.9						Gauge only	
MW4045	31/01/2022	Q2	19	15 - 18	7.328	0.802	6.526	Good condition	16.3	7.68	4053	2634.45	4.08	25.57	-56.2	Light Grey, Low Turbidity, Slight Organic Odour
MW4046	03/02/2022	Q2	6.62	3.5 - 6.5	9.19	1.29	7.9	Good condition	4.5						Gauge only	
MW4047	03/02/2022	Q1	8.52	5.5 - 8.5	11.657	2.885	8.772	Good condition	6.6						Gauge only	
MW4048	04/02/2022	Q2	20.98	18 - 21	12.975	3.746	9.229	Good condition	19.3	8.84	1055.8	686.27	1.54	18.67	-122.7	Light Brown, Medium Turbidity, No odour
MW4049	03/02/2022	Q1	8.4	5.5 - 8.5	10.643	2.028	8.615	Good condition	6.5						Gauge only	
MW4052	03/02/2022	Q1	9.81	6.5 - 9.5	12.057	4.586	7.471	Good condition	7.5	7.92	1640	1066	2.18	22.24	53.5	Light Brown, Low Turbidity, No odour
MW4053	31/01/2022	Q1	4.29	5.25 - 8.5	7.45	1.9	5.55	Good condition	6.2	7.68	2992	1944.8	3.49	30.66	29	Brown, Medium Turbidity, No odour
MW4055	02/02/2022	Q1	9	6 - 9	7.883	2.667	5.216	Good condition	7	7.71	4748.3	3086.395	3.87	22.83	-40.7	Light Brown, Low Turbidity, No odour
MW4057	03/02/2022	Q1	8	5 - 8	9.429	0.886	8.543	Good condition	6	7.99	6653	4324.45	2.86	19.2	-2.9	Grey / Brown, Medium Turbidity, No odour
MW4058	02/02/2022	Q1	5.25	2.5 - 5.5	9.407	2.674	6.733	Good condition	1.7	7.3	6859.8	4458.87	1.73	20.84	-64.8	Black / Grey, Turbid, Organic Odour
MW4059	02/02/2022	Q1	8	5 - 8	10.204	1.776	8.428	Good condition	5.9	7.23	15179.2	9866.48	1.9	21.79	-28.2	Light Brown, Low Turbidity, No odour
MW4060	02/02/2022	Q1	7	3.9 - 6.9	11.386	2.22	9.166	Bolts damaged	4.5	7.74	2196.6	1427.79	4.52	21.6	-35.7	Black / Grey, Turbid, No odour
MW4061	02/02/2022	Q1	7.95	5 - 8	16.538	4.437	12.101	Good condition	17.7	7.34	6049.5	3932.175	2.08	22.49	-40	Light Brown, Low Turbidity, No odour
MW4064	02/02/2022	Q1	7.81	5 - 8	5.885	1.335	4.55	Good condition	5.8	7.62	4016.7	2610.855	1.86	22.8	-55.4	Light Brown, Medium Turbidity, No odour
MW4065	02/02/2022	Q2	20.04	17 - 20	17.754	5.889	11.865	Good condition	18.3	7.44	4890.6	3178.89	2.28	21.57	-80.2	Light Brown, Turbid, Organic Odour
MW4066	03/02/2022	Q2	18	15 - 18	9.478	1.005	8.473	Good condition	15.5	8.01	12640	8216	3.48	19.45	42.6	Clear, Low Turbidity, No odour
MW4068	31/01/2022	Q3	44.6	42 - 45	13.749	10.759	2.99	Good condition	43.8	7.75	2843	1847.95	3.49	27.41	153	Clear, Low Turbidity, No odour
MW4069	31/01/2022	Q3	-	31.5 - 36	12.92	3.8	9.12	Good condition	33.3	-	-	-	-	-	-	
	04/02/2022		34.8			3.821	9.099			9.29	3187.3	2071.745	2.37	18.82	-119.6	Light Brown, Medium Turbidity, No odour
MW4070	31/01/2022	Q3	45	30 - 45	7.311	1.701	5.61	Good condition	31.8	7.52	2715	1764.75	1.98	26.5	-83.4	Grey / Brown, Medium Turbidity, Organic Odour
MW4071	31/01/2022	Q3	29.6	27 - 30	12.009	2.915	9.094	Good condition	36.6	6.99	8145	5294.25	2.56	28.39	-215.6	Clear, Low Turbidity, Organic Odour
MW4072	03/02/2022	Q1	13.9	10 - 13	17.147	9.6	7.547	Good condition	11.0	7.94	1817	1181.05	7.91	22.47	46.9	Clear, Low Turbidity, No odour
MW4073	31/01/2022	Q3	-	40.5 - 43.5	9.458	1.56	7.898	Good condition	10.8	-	-	-	-	-	-	
	31/01/2022		42.3			1.614	7.844			9.15	14654	9525.1	2.76	19.98	-38.8	Clear, Low Turbidity, Organic Odour
MW4074	31/01/2022	Q3	37.5	33 - 39	14.06	4.706	9.354	Good condition	37.5	7.53	2541	1651.65	5.83	27.17	145.8	Light Brown, Low Turbidity, No odour
MW4075	31/01/2022	Q4	-	45 - 48	13.059	7.002	6.057	Good condition	46.1	-	-	-	-	-	-	
	04/02/2022		48			7.116	5.943			11.04	2899.2	1884.48	1.12	19.18	-207.3	White, Turbid, No odour
MW4076	03/08/2021	Q2	-	15 - 18	7.942	-	-	Could not access, submerged in water	15.9	Could not access						
MW4077	02/02/2022	Q2	18	15 - 18	10.232	1.795	8.437	Good condition	16.0	7.2	13993.9	9096.035	1.98	21.73	-142.1	Black / Grey, Medium Turbidity, Organic Odour
MW4078	31/01/2022	Q4	53.2	51 - 54	9.537	12.114	-2.577	Good condition	52.3	6.10	18264	11871.6	4.31	22.7	184.0	Light Yellow, Low Turbidity, No odour
MW4079	31/01/2022	Q4	57.01	52.5 - 57	9.505	9.83	-0.325	Good condition	55	12.22	12739	8280.35	5.51	19.86	-86.4	Clear, Low Turbidity, No odour
MW4218	02/02/2022	Q1	9.7	7 - 10	21.857	7.363	14.494	Good condition	8.5	6.68	20314	13204.1	1.41	20.02	-115	Black / Grey, Turbid, No odour
MW4219	03/02/2022	Q1	8.5	5.5 - 8.5	8.978	2.123	6.855	Good condition	6.5	7.57	11494.1	7471.165	4.54	22.36	17.7	Light Brown, Low Turbidity, No odour
MW4220	03/02/2022	T1	105	94 - 107	-	4.46	-	Key from DEW required for access	103	8.72	1523	989.95	2.26	22.53	-149.6	Clear, Low Turbidity, No odour
MW4221	04/02/2022	T1	-	96 - 110	-	-	-	Good condition	-	7.32	2005	1303.25	3.45	20.31	-49.1	Clear, Low Turbidity, No odour
MW4222	04/02/2022	T1	-	102 - 120	-	-	-	Good condition	-	7.40	1339	870.35	1.02	20.25	-76.6	Clear, Low Turbidity, No odour
MW4223	04/02/2022	Q2	-	23.8 - 27	-	-	-	Good condition	-	7.47	5581	3627.65	5.29	20.93	-51.4	Clear, No odour

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

Table T2 - Groundwater Analytical Results

					PFAS																																			
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.56**																																		
Location Code	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report Number**																																				
MW2112	0939_MW2112_220201	1/02/2022	Primary	EM2202065	2.23	0.05	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.07	0.03	0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.65**	2.91
MW2114	0939_MW2114_220201	1/02/2022	Primary	EM2202065	138	**12.2**	75.2	<0.05	0.51	<0.05	<0.05	<0.04	<0.04	<0.1	21.1	4.68	<0.04	24.8	12.5	6.44	<0.04	<0.04	<0.04	18.3	1.9	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	**213**	316
MW2116	0939_MW2116_220204	4/02/2022	Primary	EM2202066	6130	**194**	2730	<0.38	1.03	<0.38	<0.38	<0.38	<0.38	<0.94	356	132	0.98	594	226	80.6	<3.77	<0.38	<0.38	308	30.1	<0.94	<0.94	<0.94	<0.94	<0.38	2.87	<0.38	**8,860**	10,800
MW2120	0939_MW2120_220131	31/01/2022	Primary	EM2201740	31.9	**0.68**	2.96	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.2	0.11	<0.02	0.66	0.63	0.13	0.33	<0.02	<0.02	0.19	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.56	<0.02	**34.9**	38.4
MW2126	0939_MW2126_220201	1/02/2022	Primary	EM2201740	0.52	0.03	0.75	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.03	<0.02	0.16	0.06	0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.27**	1.78
	0939_QC103_220201	1/02/2022	Intralab Duplicate	EM2201740	0.51	0.03	0.76	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.03	<0.02	0.16	0.06	0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.27**	1.78
	0939_QC203_220201	1/02/2022	Interlab Duplicate	RN1343320	0.36	0.026	0.74	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.093	0.028	<0.01	0.15	0.034	0.016	<0.01	<0.01	<0.01	0.08	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.1**	1.527
MW2129	0939_MW2129_220131	31/01/2022	Primary	EM2201740	2.48	0.43	7.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.56	0.4	<0.02	2.79	0.14	0.23	<0.02	<0.02	<0.02	0.52	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**9.51**	14.7
MW2130	0939_MW2130_220201	1/02/2022	Primary	EM2202065	265	**11.7**	51.2	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38	<0.94	7.48	7.91	<0.38	37.6	5.01	6.61	<0.38	<0.38	<0.38	7.52	<1.9	<0.94	<0.94	<0.94	<0.94	<0.38	<0.38	<0.38	**316**	400
	0939_QC106_220201	1/02/2022	Intralab Duplicate	EM2202065	299	**12.5**	51.7	<0.05	0.45	0.24	<0.05	<0.05	<0.05	<0.12	8.68	8.09	0.42	39.4	6.28	7.19	1.18	<0.05	0.1	7.5	2.8	<0.12	<0.12	<0.12	<0.12	<0.05	0.23	<0.05	**351**	446
	0939_QC206_220201	1/02/2022	Interlab Duplicate	RN1343320	220	**10**	53	<0.01	0.53	0.19	<0.01	<0.01	<0.02	<0.02	6.9	8.2	0.39	35	3.9	6	0.058	<0.01	0.11	7.3	7.5	<0.02	<0.05	<0.02	<0.05	<0.01	0.15	<0.01	**273**	359.2
MW2131	0939_MW2131_220201	1/02/2022	Primary	EM2202065	118	**7.26**	16.9	<0.05	1.8	0.06	<0.05	<0.04	<0.04	<0.09	1.68	4.27	0.12	9.63	0.7	2.89	<0.04	<0.04	<0.04	1.3	0.9	<0.09	<0.09	<0.09	<0.09	<0.04	0.5	<0.04	**135**	166
MW2134	0939_MW2134_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW2135	0939_MW2135_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2135	0939_QC108_220202	2/02/2022	Intralab Duplicate	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2135	0939_QC208_220202	2/02/2022	Interlab Duplicate	RN1343320	0.044	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	0.044	0.044
MW2137	0939_MW2137_220131	31/01/2022	Primary	EM2201740	8.81	0.35	10.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.47	0.22	<0.02	1.29	0.47	0.12	<0.02	<0.02	<0.02	0.75	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**19.3**	24.1
MW2139	0939_MW2139_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.13**	0.13
	0939_QC102_220131	31/01/2022	Intralab Duplicate	EM2201740	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.11**	0.11
	0939_QC202_220131	31/01/2022	Interlab Duplicate	RN1343320	<0.02	<0.01	0.15	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.015	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.15**	0.165
MW2145	0939_MW2145_220131	31/01/2022	Primary	EM2201740	0.87	0.03	0.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.45**	1.83
MW2148	0939_MW2148_220131	31/01/2022	Primary	EM2201740	640	**18**	205	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	27.1	6.08	<0.39	30.7	24.6	6.43	<0.39	<0.39	<0.39	23.4	<2	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	<0.39	**845**	981
MW2149	0939_MW2149_220201	1/02/2022	Primary	EM2202065	57.7	**5.73**	66.5	<0.05	0.26	<0.05	<0.05	<0.04	<0.04	<0.1	13.4	4.42	<0.04	20.7	5.18	3.15	<0.04	<0.04	<0.04	9.77	1.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.09	<0.04	**124**	188
MW2150	0939_MW2150_220201	1/02/2022	Primary	EM2202065	9.6	0.13	3.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.29	0.1	<0.02	0.48	0.17	0.06	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**13.4**	14.9
MW2157	0939_MW2157_220201	1/02/2022	Primary	EM2202065	12.1	0.34	4.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.65	0.21	<0.02	1.09	0.45	0.16	<0.02	<0.02	<0.02	0.55	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**16.5**	20
MW2158	0939_MW2158_220131	31/01/2022	Primary	EM2201740	1490	**56.2**	478	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	97.6	28.1	<0.39	138	63	26.8	<0.39	<0.39	<0.39	78.9	6.4	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	<0.39	**1970**	2460
MW2159	0939_MW2159_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2162	0939_MW2162_220201	1/02/2022	Primary	EM2201740	0.14	<0.01	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.44**	0.56
MW2166	0939_MW2166_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2169	0939_MW2169_220131	31/01/2022	Primary	EM2201740	0.05	<0.01	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.39**	0.52
MW2172	0939_MW2172_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.07**	0.07
MW2173	0939_MW2173_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2175	0939_MW2175_220131	31/01/2022	Primary	EM2201740	0.08	<0.01	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.32**	0.46
MW2176	0939_MW2176_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2177	0939_MW2177_220131	31/01/2022	Primary	EM2201740	2.93	0.15	3.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.08	<0.02	0.6	0.32	0.07	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**5.99**	7.59
MW2180	0939_MW2180_220131	31/01/2022	Primary	EM2201740	38.5	**4.64**	39.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.01	0.97	0.04	4	4.78	0.64	<0.02	<0.02	<0.02	0.49	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	<0.02	**78.3**	95.3
	0939_QC101_220131	31/01/2022	Intralab Duplicate	EM2201740	40.2	**5.38**	44.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.12	1.01	0.05	4.73	5.41	0.66	<0.02	<0.02	<0.02	0.53	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	<0.02	**85**	104
	0939_QC201_220131	31/01/2022	Interlab Duplicate	RN1343320	50	**7.3**	63	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	1.6	0.84	0.031	7.1	6.3	0.58	<0.01	<0.01	<0.01	0.59	0.44	<0.02	<0.05	<0.02	<0.05	<0.01	0.026	<0.01	**113**	137.8
MW2182	0939_MW2182_220131	31/01/2022	Primary	EM2201740	0.05	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.07**	0.07
MW2183	0939_MW2183_220131	31/01/2022	Primary	EM2201740	3.35	0.09	1.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.24	0.05	<0.02	0.28	0.13	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**4.93**	5.94
MW2184	0939_MW2184_220131	31/01/2022	Primary	EM2201740	0.38	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.4**	0.4
MW2185	0939_MW2185_220131	31/01/2022	Primary	EM2201740	5.67	0.18	3.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.47	0.1	<0.02	0.46	0.27	0.08	<0.02	<0.02	<0.02	0.39	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**9.03**	11
MW2188	0939_MW2188_220201	1/02/2022	Primary	EM2202065	130	**4.66**	90.9	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	15.8	3.7	<0.04	17.4	8.05	2.28	<0.04	<0.04	<0.04	9.12	0.8	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	**221**	283
MW2189	0939_MW2189_220201	1/02/2022	Primary	EM2202065	314	**8.22**	109	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.01	14.7	4.97	<0.4	23.2	10.3	3.5	<0.4	<0.4	<0.4	14	<2	<1.01	<1.01	<1.01	<1.01	<0.4	<0.4	<0.4	**423**	502
MW2193	0939_MW2193_220131	31/01/2022	Primary	EM2201740	44.8	**1.49**	25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.58	1.77	<0.02	6.88	1.73	1	<0.04	<0.02	<0.02	3.85	0.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	**69.8**	92
MW2194	0939_MW2194_220201	1/02/2022	Primary	EM2202065	1.16	0.04	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.11	0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.8**	2.14
MW2197	0939_MW2197_220201	1/02/2022	Primary	EM2202065	327	**9.66**	140	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.97	18.1	5.83	<0.39	26.9	14	4.49	<0.39	<0.39	<0.39	15.1	<1.9	<0.97	<0.97	<0.97	<0.97	<0.39	<0.39	<0.39	**467**	561

Table T2 - Groundwater Analytical Results

					PFAS																																			
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.56**																																		
Location Code	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report Number**																																				
MW2200	0939_MW2200_220131	31/01/2022	Primary	EM2201740	46.3	**3.49**	67.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	12.1	2.18	<0.04	11.4	5.74	1.89	<0.04	<0.04	<0.04	7.95	0.6	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	**114**	159
MW2201	0939_MW2201_220201	1/02/2022	Primary	EM2201740	0.59	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.68**	0.68
MW2202	0939_MW2202_220201	1/02/2022	Primary	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC104_220201	1/02/2022	Intralab Duplicate	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC204_220201	1/02/2022	Interlab Duplicate	RN1343320	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.02	<0.02
MW2203	0939_MW2203_220131	31/01/2022	Primary	EM2201740	2880	**39.2**	542	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.01	77	23.2	<0.4	108	57.3	18.3	<0.4	<0.4	<0.4	49.5	3.4	<1.01	<1.01	<1.01	<1.01	<0.4	<0.4	<0.4	**3420**	3800
MW2209	0939_MW2209_220201	1/02/2022	Primary	EM2202065	0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW2210	0939_MW2210_220201	1/02/2022	Primary	EM2202065	148	**5.15**	73.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	15.2	3.77	<0.04	19	16.3	3.23	<0.04	<0.04	<0.04	13.8	1.5	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	**221**	299
MW2216	0939_MW2216_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2218	0939_MW2218_220202*	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2270	0939_MW2270_220131	31/01/2022	Primary	EM2201740	0.44	0.05	0.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.04	<0.02	0.19	0.05	0.03	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.28**	1.94
MW2272	0939_MW2272_220131	31/01/2022	Primary	EM2201740	77.5	**11.8**	121	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	34.4	7.85	<0.04	37.2	18.4	6.44	<0.04	<0.04	<0.04	24.8	2.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	**198**	341
MW2275	0939_MW2275_220131	31/01/2022	Primary	EM2201740	0.16	0.12	1.23	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.19	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.39**	1.89
MW2281	0939_MW2281_220131	31/01/2022	Primary	EM2201740	1.24	0.03	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.06	0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.84**	2.16
MW2284	0939_MW2284_220131	31/01/2022	Primary	EM2201740	23.6	**3.5**	28.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.41	2.7	<0.02	7.5	2.7	1.49	<0.04	<0.02	<0.02	4.93	2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**51.8**	82
MW2285	0939_MW2285_220131	31/01/2022	Primary	EM2201740	0.15	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.2**	0.2
MW2286	0939_MW2286_220131	31/01/2022	Primary	EM2201740	0.44	0.01	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.8**	0.93
MW2325	0661_MW2325_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2358	0939_MW2358_220201	1/02/2022	Primary	EM2201740	32.6	**1.95**	49	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	8.69	2.45	<0.04	13.4	3.78	1.62	<0.04	<0.04	<0.04	6.28	0.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**81.6**	120
MW2394	0939_MW2394_220201	1/02/2022	Primary	EM2201740	0.12	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.14**	0.14
MW2411	0939_MW2411_220201	1/02/2022	Primary	EM2201740	0.8	0.01	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.05	<0.02	0.18	0.02	<0.02	<0.02	<0.02	<0.02	0.25	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.22**	2.14
MW2490	0939_MW2490_220201	1/02/2022	Primary	EM2202065	2210	**77.6**	1130	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	188	34.4	<0.39	183	106	26.3	<0.39	<0.39	<0.39	88.9	5.5	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	<0.39	**3340**	4050
MW2499	0939_MW2499_220201	1/02/2022	Primary	EM2202065	222	**2.82**	12.5	<0.4	0.49	<0.4	<0.4	<0.4	<0.4	<1	1.06	2.44	<0.4	3.85	1.32	0.56	<0.4	<0.4	<0.4	0.99	<2	<1	<1	<1	<1	<0.4	<0.4	<0.4	**234**	248
MW2501	0939_MW2501_220202	2/02/2022	Primary	EM2202065	0.17	0.02	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.24**	0.34
MW2528	0939_MW2528_220201	1/02/2022	Primary	EM2202065	40.6	**1.85**	11.8	<0.05	0.17	0.12	<0.05	<0.02	<0.02	<0.05	1.67	5.73	0.24	10.2	0.84	1.04	0.26	<0.02	0.1	2.86	10.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.14	<0.02	**52.4**	87.9
	0939_QC107_220201	1/02/2022	Intralab Duplicate	EM2202065	43	**1.88**	11.8	<0.05	0.17	0.12	<0.05	<0.02	<0.02	<0.05	1.73	5.89	0.24	10.3	0.88	1.04	0.25	<0.02	0.1	2.81	10.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.14	<0.02	**54.8**	90.6
	0939_QC207_220201	1/02/2022	Interlab Duplicate	RN1344224	45	**1.4**	14	<0.01	0.15	0.084	<0.01	<0.01	<0.02	<0.02	1.6	6.9	0.19	11	0.71	0.75	0.019	<0.01	0.14	3.3	12	<0.02	<0.05	<0.02	<0.05	<0.01	0.1	<0.01	**59**	97.34
MW4001	0939_MW4001_220204	4/02/2022	Primary	EM2202066	0.82	0.04	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.04	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.06**	1.26
MW4001	0939_QC212_220204	4/02/2022	Interlab Duplicate	RN1344225	0.83	0.029	0.28	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.027	0.029	<0.01	0.064	0.012	0.019	<0.01	<0.01	<0.01	0.023	0.062	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.11**	1.348
MW4003	0939_MW4003_220203	3/02/2022	Primary	EM2202066	8.5	0.22	3.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.34	0.09	<0.02	0.42	0.32	0.09	<0.02	<0.02	<0.02	0.36	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**12**	13.9
MW4009	0939_MW4009_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4013	0939_MW4013_220204	4/02/2022	Primary	EM2202066	3.89	0.13	2.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.28	0.15	<0.02	0.43	0.11	0.07	<0.02	<0.02	<0.02	0.3	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**5.95**	7.52
	0939_QC213_220204	4/02/2022	Interlab Duplicate	RN1344225	3.8	0.13	2.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.27	0.14	<0.01	0.43	0.091	0.063	<0.01	<0.01	<0.01	0.31	0.15	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**6.1**	7.544
MW4015	0939_MW4015_220203	3/02/2022	Primary	EM2202066	5.96	0.14	3.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.08	<0.02	0.4	0.21	0.06	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**9.68**	11.1
MW4020	0939_MW4020_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4023	0939_MW4023_220202	2/02/2022	Primary	EM2202065	0.8	0.04	0.87	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.14	0.08	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.67**	2.08
MW4023	0939_QC109_220202	2/02/2022	Intralab Duplicate	EM2202065	0.8	0.04	0.88	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.15	0.08	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.68**	2.09
MW4023	0939_QC209_220202	2/02/2022	Interlab Duplicate	RN1343320	0.55	0.027	0.93	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.076	0.02	<0.01	0.14	0.05	0.012	<0.01	<0.01	<0.01	0.044	<0.05	<0.02	<0.02	<0.05	<0.02	<0.01	<0.01	<0.01	**1.48**	1.849
MW4024	0939_MW4024_220202	2/02/2022	Primary	EM2202065	0.42	0.02	0.53	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.95**	1.13
MW4027	0939_MW4027_220202	2/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4035	0939_MW4035_220203	3/02/2022	Primary	EM2202066	9.58	0.19	3.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.36	0.08	<0.02	0.47	0.33	0.08	<0.02	<0.02	<0.02	0.61	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**13**	15.1
MW4037	0939_MW4037_220203	3/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4037	0939_QC111_220203	3/02/2022	Intralab Duplicate	EM2202066	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4037	0939_QC211_220203	3/02/2022	Interlab Duplicate	RN1343320	<0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.02	<0.05	<0.02	<0.01	<0.01	<0.01	0.01	0.01
MW4041	0939_MW4041_220203	3/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Table T2 - Groundwater Analytical Results

					PFAS																																		
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water						**0.56**																															**0.07**	
Location Code	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report Number**																																		
MW4045	0939_MW4045_220131	31/01/2022	Primary	EM2201740	0.27	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.35**	0.37
MW4048	0939_MW4048_220204	4/02/2022	Primary	EM2202066	0.68	0.04	0.29	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.97**	1.23
MW4052	0939_MW4052_220203	3/02/2022	Primary	EM2202066	0.04	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW4053	0939_MW4053_220131	31/01/2022	Primary	EM2201740	0.67	0.02	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.94**	1.05
MW4055	0939_MW4055_220202	2/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4057	0939_MW4057_220203	3/02/2022	Primary	EM2202066	0.05	0.02	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.15**	0.21
MW4058	0939_MW4058_22020	2/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_220202	2/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4064	0939_MW4064_220202	2/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4066	0939_MW4066_220203	3/02/2022	Primary	EM2202066	0.05	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.19**	0.31
	0939_QC110_220203	3/02/2022	Intralab Duplicate	EM2202066	0.05	0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.18**	0.31
	0939_QC210_220203	3/02/2022	Interlab Duplicate	RN1343320	0.063	<0.01	0.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.023	<0.02	<0.01	0.028	<0.01	<0.01	<0.01	<0.01	<0.01	0.048	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.233**	0.332
MW4068	0939_MW4068_220131	31/01/2022	Primary	EM2201740	5.69	0.14	2.5	<0.05	0.13	<0.05	<0.05	<0.02	<0.02	<0.05	0.29	0.08	<0.02	0.32	0.2	0.06	0.27	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**8.19**	9.92
MW4069	0939_MW4069_220204	4/02/2022	Primary	EM2202066	1.44	0.06	0.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.04	<0.02	0.12	0.03	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.07**	2.52
MW4070	0939_MW4070_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4071	0939_MW4071_220131	31/01/2022	Primary	EM2201740	0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4072	0939_MW4072_220203	3/02/2022	Primary	EM2202066	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4073	0939_MW4073_220203	3/02/2022	Primary	EM2202066	0.07	0.04	0.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.32**	0.48
MW4074	0939_MW4074_220131	31/01/2022	Primary	EM2201740	0.09	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.09**	0.09
MW4075	0939_MW4075_220204	4/02/2022	Primary	EM2202066	0.11	0.02	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.03	<0.02	0.12	<0.02	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.45**	0.78
MW4077	0939_MW4077_220202	2/02/2022	Primary	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	0939_MW4078_220131	31/01/2022	Primary	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4079	0939_MW4079_220203	3/02/2022	Primary	EM2202066	<0.01	0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.08
MW4218	0939_MW4218_220202*	2/02/2022	Primary	EM2202065	1.14	0.03	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.42**	1.63
MW4219	0939_MW4219_220203	3/02/2022	Primary	EM2202066	0.22	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.36**	0.42
MW4220	0939_MW4220_220203	3/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_220204	4/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_220204	4/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_220204	4/02/2022	Primary	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Notes:

Denotes new exceedence of human health screening criteria

* Analytical results for MW2218 and MW4218 appear to have been swapped during laboratory processing.

LOR: Limit of reporting

µg/L: micrograms per Litre

Appendix C

Data Validation Reports

AECOM Imagine it. Delivered.

diDATA VALIDATION REPORT; GROUNDWATER

Project Manager:	[redacted]	**Validation by:**	[redacted]
Project number:	60612561	**Date:** 7/4/2022	
Site:	RAAF Edinburgh		
Matrix:	Water	**Data Verified by:**	
Laboratory:	ALS; NMI	**Date:** 20/04/2021	
Lab reference:	EM2201740, EM2202065, EM2202066, RN1343320, RN1344224, RN1344225		

Key Findings:

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

- Elevated RPDs should be taken into consideration when using data for PFDS, PFBA, PFPeS, PFHxA, 6:2 FTS, PFHpA, PFDA and sum of PFAS quantitatively.
- Elevated RPDs should be taken into consideration when interpreting data for PFOA, PFOS, PFHxS and PFHxS+PFOS where close to guidelines.

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

Comments	
1. Sample handling/ preservation/ holding times	**Handling/preservation** Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. The following sample receipt temperatures were reported for: Batch Number / Temperature (°C) EM2201740 / 20.3 – ice present EM2202065 / 20.3 – ice present EM2202066 / 20.3 – ice present RN1343320 / Chilled RN1344224 / Chilled RN1344225 / Chilled Sample receipt temperatures were outside of the recommended range (≤6°C) in all primary batches. As the samples were received generally below ambient groundwater temperature at the time of sampling (~21 °C) and immediately cooled upon collection, the potential for under reporting is not considered to materially affect the interpretation of results.
2. Frequency of Laboratory QA/QC	Laboratory duplicate samples were not reported for PFAS in batches EM2201740, EM2202065 and EM2202066. The precision of the data can be assessed as acceptable based on intra- and inter-laboratory duplicate RPDs which were reported above the required frequencies and generally within control limits. Matrix spikes were not reported at the required frequencies for PFAS in batches EM2201740 and EM2202066. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits).
3. Field intra-laboratory duplicate RPDs	Field duplicate RPDs were reported within control limits with the exception the following in lab batch EM2202065 (the sample with the higher concentration is in bold): • 0939_MW2130_220201and **0939_QC106_220201** for PFDS (103%) and PFBA (38%) As there are no adopted guideline values for PFDS or PFBA the elevated RPD is not expected to affect interpretation of the result of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively.

2 of 4

Comments	
4. Field inter-laboratory duplicate RPDs	Field inter-laboratory RPDs were reported within control limits, with the exception of PFOA, PFHxS, PFPeS, PFOS, 6:2 FTS, PFBA, PFHpA and PFDA, as shown in the RPD table and outlined below (the sample with the higher concentration is in bold). <u>RN1343320</u> - 0939_MW2180_220131 and **0939_QC201_220131** for PFOA (45%), PFHxS (45%), PFPeS (45%), PFHxA (56%), PFHxS+PFOS (36%) and sum of PFAS (36%) - **0939_MW2126_220201** and 0939_QC203_220201 for PFOS (36%) - 0939_MW2130_220201 and **0939_QC206_220201** for 6:2 FTS (33%) and PFBA (119%) - 0939_MW4023_220202 and 0939_QC209_220202 for PFOS (37%) <u>RN1344224</u> - **0939_MW2528_220201** and 0939_QC207_220201 for PFHpA (32%) and PFDA (173%) As there are no adopted guideline values for PFPeS, 6:2 FTS, PFBA, PFHpA and PFDA the elevated RPD is not expected to affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively. This apparent lack of precision should be taken into consideration when interpreting concentrations for PFOA, PFOS and PFHxS+PFOS close to guidelines.
5. Laboratory duplicate RPDs	Laboratory duplicate RPDs were within control limits, with the exception of PFBA (194%), PFPeA (41.1%), PFOA (25.4%), PFNA (131%), 6:2 FTS (37.2%) and 8:2 FTS (170%) in batch EM2202065 which were reported outside the control limit of 0-20%. As there are no adopted guideline values for PFBA, PFPeA, PFNA, 6:2 FTS and 8:2 FTS the elevated RPD is not expected to affect interpretation of the result of results This apparent lack of precision should be taken into consideration when interpreting concentrations for PFOA close to guidelines. In batch EM2202065, ALS noted poor duplicate precision observed for an anonymous sample due to sample heterogeneity.
6. MS % recoveries	Matrix spike recoveries (where reported) were within control limits. Matrix spike recoveries were not determined for PFBS, PFPeS, PFHxS, PFOS, PFPeA, PFHxA, PFHpA, PFOA and 6:2 FTS as background levels were greater than or equal to 4x spike levels in batch EM2202065. These non-determinations do not reflect method bias and do not affect data interpretation. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits), and available matrix spike recoveries for the same analytical method group (which were reported within control limits). ALS laboratory noted that matrix spike recovery was not determined for sample 0939_MW131_220201 due to sample matrix interference in batch EM2002065.

3 of 4

Comments

7. Surrogate recoveries

Surrogate spike recoveries were within control limits, with the exception of the following in batch EM2201740:

Lab Method & Surrogate	Sample ID	Recovery (%)	Limit (%)	Comment
EP231S: PFAS Surrogate	0939_MW2203_220131	55	65-140	Recovery less than lower data quality objective

The potential exists for PFAS in sample 0939_MW2203_220131 to be under reported by up to 45%.

This apparent lack of accuracy should be taken into consideration when interpreting concentrations for PFAS analytes close to guidelines. It was noted by ALS that poor surrogate recovery for sample 0939_MW2203_220131 was due to sample matrix interference and is therefore not expected to affect the interpretation of results.

8. Other comments

General Comments

ALS laboratory noted the following:

EM2202066

- Sample 0939_MW2116_220204 required dilution due to matrix interference. LOR values have been adjusted accordingly.

EM2201740

- Samples required dilution due to matrix interference. LOR values have been adjusted accordingly.

EM2202065

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

4 of 4

Field Blanks Table

			Lab Report Number	EM2201740	EM2201740	EM2201740	EM2201740	EM2202065	EM2202065	EM2202065
			Field ID	0939_QC301_220131	0939_QC302_220131	0939_QC303_220131	0939_QC304_220131	0939_QC305_220201	0939_QC306_220201	0939_QC307_220201
			Sample Date	31/01/2022	31/01/2022	31/01/2022	31/01/2022	1/02/2022	1/02/2022	1/02/2022
			Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Reporting Group	**Analyte**	**Units**	**LOR**							
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic Acid (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	<0.01
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	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 sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	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-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Field Blanks Table

Lab Report Number	EM2202066	EM2202066	EM2202066	EM2202066	EM2202066	EM2202066	EM2201740
Field ID	0939_QC308_220202	0939_QC309_220202	0939_QC310_220202	0939_QC311_220203	0939_QC312_220203	0939_QC314_220204	0939_QC501_220131
Sample Date	2/02/2022	2/02/2022	2/02/2022	3/02/2022	3/02/2022	4/02/2022	31/01/2022
Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank

Reporting Group	Analyte	Units	LOR							
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic Acid (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	<0.01
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	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 sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	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-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Field Blanks Table

			Lab Report Number	EM2201740	EM2201740	EM2201740	EM2202065	EM2202065	EM2202066	EM2202066
			Field ID	0939_QC502_220131	0939_QC503_220131	0939_QC504_200721	0939_QC505_220201	0939_QC507_220201	0939_QC508_220202	0939_QC509_220202
			Sample Date	31/01/2022	31/01/2022	31/01/2022	1/02/2022	1/02/2022	2/02/2022	2/02/2022
			Sample Type	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Reporting Group	**Analyte**	**Units**	**LOR**							
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic Acid (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	<0.01
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	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 sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	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-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Field Blanks Table

	Lab Report Number	EM2202066	EM2202066	EM2202066	EM2202066	EM2202065	EM2202066	EM2202066
	Field ID	0939_QC510_220202	0939_QC511_220203	0939_QC512_220203	0939_QC514_220204	0939_QC402_220201	0939_QC403_220202	0939_QC405_220204
	Sample Date	2/02/2022	3/02/2022	3/02/2022	4/02/2022	1/02/2022	2/02/2022	4/02/2022
	Sample Type	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Field Blank	Field Blank	Field Blank
Reporting Group	**Analyte**	**Units**	**LOR**							
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic Acid (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	<0.01
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	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 sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	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-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Relative Percentage Difference Table

Lab Report Number			EM2201740	EM2201740		EM2201740	EM2201740		EM2201740	EM2201740		EM2201740	EM2201740	
Field ID			0939 MW2180 220131	0939 QC101 220131	RPD	0939 MW2139 220131	0939 QC102 220131	RPD	0939 MW2126 220201	0939 QC103 220201	RPD	0939 MW2202 220201	0939 QC104 220201	RPD
Sampled Date			31/01/2022	31/01/2022		31/01/2022	31/01/2022		1/02/2022	1/02/2022		1/02/2022	1/02/2022	
Sample Type			Primary	Intralab Duplicate		Primary	Intralab Duplicate		Primary	Intralab Duplicate		Primary	Intralab Duplicate	
Reporting Group	**Analyte**	**Units**	**LOR**											
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	38.5	40.2	4	<0.01	<0.01	0	0.52	0.51	2	<0.01	<0.01	0
	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	4.64	5.38	15	<0.01	<0.01	0	0.03	0.03	0	<0.01	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	78.3	85	8	0.13	0.11	17	1.27	1.27	0	<0.01	<0.01	0
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	39.8	44.8	12	0.13	0.11	17	0.75	0.76	1	<0.01	<0.01	0
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	1.01	1.12	10	<0.02	<0.02	0	0.11	0.12	9	<0.02	<0.02	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.97	1.01	4	<0.02	<0.02	0	0.03	0.03	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.05	22	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	4	4.73	17	<0.02	<0.02	0	0.16	0.16	0	<0.02	<0.02	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	4.78	5.41	12	<0.02	<0.02	0	0.06	0.06	0	<0.02	<0.02	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.64	0.66	3	<0.02	<0.02	0	0.02	0.02	0	<0.02	<0.02	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.49	0.53	8	<0.02	<0.02	0	0.1	0.09	11	<0.02	<0.02	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0.4	0.4	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<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	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.05	22	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Sum of PFAS	µg/L	0.01	95.3	104	9	0.13	0.11	17	1.78	1.78	0	<0.01	<0.01	0

**High RPDs are in bold (Acceptable RPDs for each LOR multiplier range are: 200 (1-10 x LOR); 50 (10-20 x LOR); 30 (> 20 x LOR))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Relative Percentage Difference Table

			Lab Report Number	EM2202065	EM2202065		EM2202065	EM2202065		EM2202065	EM2202065		EM2202065	EM2202065	
			Field ID	0939 MW2130 220201	0939 QC106 220201	RPD	0939 MW2528 220201	0939 QC107 220201	RPD	0939 MW2135 220202	0939 QC108 220202	RPD	0939 MW4023 220202	0939 QC109 220202	RPD
			Sampled Date	1/02/2022	1/02/2022		1/02/2022	1/02/2022		2/02/2022	2/02/2022		2/02/2022	2/02/2022	
			Sample Type	Primary	Intralab Duplicate		Primary	Intralab Duplicate		Primary	Intralab Duplicate		Primary	Intralab Duplicate	
Reporting Group	**Analyte**	**Units**	**LOR**												
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	265	299	12	40.6	43	6	<0.01	<0.01	0	0.8	0.8	0
	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	11.7	12.5	7	1.85	1.88	2	<0.01	<0.01	0	0.04	0.04	0
	Sum of PFHxS and PFOS	µg/L	0.01	316	351	10	52.4	54.8	4	<0.01	<0.01	0	1.67	1.68	1
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	51.2	51.7	1	11.8	11.8	0	<0.01	<0.01	0	0.87	0.88	1
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.38	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.38	0.45	17	0.17	0.17	0	<0.05	<0.05	0	<0.05	<0.05	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.38	0.24	0	0.12	0.12	0	<0.05	<0.05	0	<0.05	<0.05	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.38	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	<0.05	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.38	<0.05	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.94	<0.12	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	7.48	8.68	15	1.67	1.73	4	<0.02	<0.02	0	0.08	0.08	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	7.91	8.09	2	5.73	5.89	3	<0.02	<0.02	0	0.02	0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	0.42	10	0.24	0.24	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	37.6	39.4	5	10.2	10.3	1	<0.02	<0.02	0	0.14	0.15	7
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	5.01	6.28	22	0.84	0.88	5	<0.02	<0.02	0	0.08	0.08	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	6.61	7.19	8	1.04	1.04	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	**<0.38**	**1.18**	**103**	0.26	0.25	4	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	<0.05	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	0.1	0	0.1	0.1	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	7.52	7.5	0	2.86	2.81	2	<0.02	<0.02	0	0.05	0.04	22
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	**<1.9**	**2.8**	**38**	10.3	10.3	0	<0.1	<0.1	0	<0.1	<0.1	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.94	<0.12	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.94	<0.12	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.94	<0.12	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.94	<0.12	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	<0.05	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	0.23	0	0.14	0.14	0	<0.02	<0.02	0	<0.02	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.38	<0.05	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Sum of PFAS	µg/L	0.01	400	446	11	87.9	90.6	3	<0.01	<0.01	0	2.08	2.09	0

Relative Percentage Difference Table

	Lab Report Number	EM2202066	EM2202066		EM2202066	EM2202066		EM2201740	RN1343320		EM2201740	RN1343320	
	Field ID	0939 MW4066 220203	0939 QC110 220203	RPD	0939 MW4037 220203	0939 QC111 220203	RPD	0939 MW2180 220131	0939 QC201 220131	RPD	0939 MW2139 220131	0939 QC202 220131	RPD
	Sampled Date	3/02/2022	3/02/2022		3/02/2022	3/02/2022		31/01/2022	31/01/2022		31/01/2022	31/01/2022	
	Sample Type	Primary	Intralab Duplicate		Primary	Intralab Duplicate		Primary	Interlab Duplicate		Primary	Interlab Duplicate	
Reporting Group	**Analyte**	**Units**	**LOR**										
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.05	0.05	0	<0.01	<0.01	0	38.5	50	26	<0.01	<0.02	0
	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.01	0.01	0	<0.01	<0.01	0	**4.64**	**7.3**	**45**	<0.01	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	0.19	0.18	5	<0.01	0.02	67	**78.3**	**113**	**36**	0.13	0.15	
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.14	0.13	7	<0.01	0.02	67	**39.8**	**63**	**45**	0.13	0.15	14
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.01	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.02	0.02	0	<0.02	<0.02	0	**1.01**	**1.6**	**45**	<0.02	0.015	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	0.97	0.84	14	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	0.04	0.031	25	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.03	0.04	29	<0.02	<0.02	0	**4**	**7.1**	**56**	<0.02	<0.01	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	4.78	6.3	27	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	0.64	0.58	10	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.06	0.06	0	<0.02	<0.02	0	0.49	0.59	19	<0.02	<0.01	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	0.4	0.44	10	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	0.04	0.026	42	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0
	Sum of PFAS	µg/L	0.01	0.31	0.31	0	<0.01	0.02	67	**95.3**	**137.81**	**36**	0.13	0.165	

Relative Percentage Difference Table

			Lab Report Number	EM2201740	RN1343320		EM2201740	RN1343320		EM2202065	RN1343320		EM2202065	RN1344224	
			Field ID	0939 MW2126 220201	0939 QC203 220201	RPD	0939 MW2202 220201	0939 QC204 220201	RPD	and	0939 QC206 220201	RPD	0939 MW2528 220201	0939 QC207 220201	RPD
			Sampled Date	1/02/2022	1/02/2022		1/02/2022	1/02/2022		1/02/2022	1/02/2022		1/02/2022	1/02/2022	
			Sample Type	Primary	Interlab Duplicate		Primary	Interlab Duplicate		Primary	Interlab Duplicate		Primary	Interlab Duplicate	
Reporting Group	**Analyte**	**Units**	**LOR**												
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	**0.52**	**0.36**	**36**	<0.01	<0.02	0	265	220	19	40.6	45	10
	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.03	0.026	14	<0.01	<0.01	0	11.7	10	16	1.85	1.4	28
	Sum of PFHxS and PFOS	µg/L	0.01	1.27	1.1	14	<0.01	<0.02	0	316	273	15	52.4	59	12
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.75	0.74	1	<0.01	<0.01	0	51.2	53	3	11.8	14	17
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.38	<0.01	0	<0.05	<0.01	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	**<0.38**	**0.53**	**33**	0.17	0.15	13
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.38	0.19	0	0.12	0.084	35
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.38	<0.01	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	<0.01	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.38	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.94	<0.02	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.11	0.093	17	<0.02	<0.01	0	7.48	6.9	8	1.67	1.6	4
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.03	0.028	7	<0.02	<0.02	0	7.91	8.2	4	5.73	6.9	19
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	0.39	3	0.24	0.19	23
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.16	0.15	6	<0.02	<0.01	0	37.6	35	7	10.2	11	8
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.06	0.034	55	<0.02	<0.01	0	5.01	3.9	25	0.84	0.71	17
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.02	0.016	22	<0.02	<0.01	0	6.61	6	10	**1.04**	**0.75**	**32**
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	0.058	0	**0.26**	**0.019**	**173**
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	<0.01	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	0.11	0	0.1	0.14	33
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.1	0.08	22	<0.02	<0.01	0	7.52	7.3	3	2.86	3.3	14
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0	**<1.9**	**7.5**	**119**	10.3	12	15
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.94	<0.02	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.94	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.94	<0.02	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.94	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	<0.01	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	0.15	0	0.14	0.1	33
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.38	<0.01	0	<0.02	<0.01	0
	Sum of PFAS	µg/L	0.01	1.78	1.527	15	<0.01	<0.02	0	400	359.2	11	87.9	97.34	10

Relative Percentage Difference Table

Lab Report Number			EM2202065	RN1343320		EM2202065	RN1343320		EM2202066	RN1343320	
Field ID			0939 MW2135 220202	0939 OC208 220202	RPD	0939 MW4023 220202	0939 OC209 220202	RPD	0939 MW4066 220203	0939 OC210 220203	RPD
Sampled Date			2/02/2022	2/02/2022		2/02/2022	2/02/2022		3/02/2022	3/02/2022	
Sample Type			Primary	Interlab Duplicate		Primary	Interlab Duplicate		Primary	Interlab Duplicate	
Reporting Group	**Analyte**	**Units**	**LOR**								
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	<0.01	0.044	126	**0.8**	**0.55**	37	0.05	0.063	23
	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	0.04	0.027	39	0.01	<0.01	0
	Sum of PFHxS and PFOS	µg/L	0.01	<0.01	0.044	126	1.67	1.48	12	0.19	0.233	20
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	0.87	0.93	7	0.14	0.17	19
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.08	0.076	5	0.02	0.023	14
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	0.02	0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.14	0.14	0	0.03	0.028	7
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.08	0.05	46	<0.02	<0.01	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	0.012	0	<0.02	<0.01	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.05	0.044	13	0.06	0.048	22
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Sum of PFAS	µg/L	0.01	<0.01	0.044	126	2.08	1.849	12	0.31	0.332	7

Relative Percentage Difference Table

Lab Report Number		EM2202066	RN1343320		EM2202066	RN1344225		EM2202066	RN1344225	
Field ID		0939 MW4037 220203	0939 OC211 220203	RPD	0939 MW4001 220204	0939 OC212 220204	RPD	0939 MW4013 220204	0939 OC213 220204	RPD
Sampled Date		3/02/2022	3/02/2022		4/02/2022	4/02/2022		4/02/2022	4/02/2022	
Sample Type		Primary	Interlab Duplicate		Primary	Interlab Duplicate		Primary	Interlab Duplicate	
Reporting Group	**Analyte**	**Units**	**LOR**							
PFAS	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	<0.01	<0.02	0	0.82	0.83	1	3.89	3.8	2
	Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	0.04	0.029	32	0.13	0.13	0
	Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	0	1.06	1.11	5	5.95	6.1	2
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	0.01	0	0.24	0.28	15	2.06	2.3	11
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.03	0.027	11	0.28	0.27	4
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	0.04	0.029	32	0.15	0.14	7
	Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.06	0.064	6	0.43	0.43	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	0.012	0	0.11	0.091	19
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	0.019	0	0.07	0.063	11
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	0.03	0.023	26	0.3	0.31	3
	Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	0.062	0	0.1	0.15	40
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	Sum of PFAS	µg/L	0.01	<0.01	0.01	0	1.26	1.348	7	7.52	7.544	0

Appendix D

Chain of Custody

ALSCompass
SAMPLING *Intelligence*

Received: 11/6
C/note: MYTK0602487
Temp: 20.3 °C Seal: Y (N)
(Ice) / Icebricks / N/A

Carrier:

ALS SCALEPACK

Environmental Division
Melbourne
Work Order Reference
EM2201740

Telephone : +61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: SA_[redacted] PFASOMP **Client:** Department of Defence **Project Manager** [redacted]
Phone:

[redacted] **# Samples:** [redacted] 161 **Sampler:**
Phone:

x263248

Turnaround Requirements: Standard ✓ Urgent

Special Instructions:

Please see notes for samples with additional volumes for lab QC

Custody:

Relinquished by: [redacted]	Received by:	Relinquished by:	Received by:
Date / Time: 10:15AM	Date / Time:	Date / Time:	Date / Time:

1/3

CHAIN OF CUSTODY

ALS COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0939_MW2137_220131		31/01/2022 10:21 AM	Water	ALS: 2 Non ALS: 0	No	X		
002	0939_MW2185_220131		31/01/2022 10:47 AM	Water	ALS: 2 Non ALS: 0	No	X		
003	0939_MW2184_220131		31/01/2022 10:59 AM	Water	ALS: 2 Non ALS: 0	No	X		
004	0939_MW2281_220131		31/01/2022 11:10 AM	Water	ALS: 2 Non ALS: 0	No	X		
005	0939_MW2286_220131		31/01/2022 11:20 AM	Water	ALS: 2 Non ALS: 0	No	X		
006	0939_MW2183_220131		31/01/2022 11:41 AM	Water	ALS: 2 Non ALS: 0	No	X		
007	0939_MW2182_220131		31/01/2022 11:52 AM	Water	ALS: 2 Non ALS: 0	No	X		
008	0939_MW2285_220131		31/01/2022 12:08 PM	Water	ALS: 2 Non ALS: 0	No	X		
009	0939_MW2275_220131		31/01/2022 12:26 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) *COC#:* **33073** *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0939_MW2180_220131		31/01/2022 12:48 PM	Water	ALS: 2 Non ALS: 0	No	X		
011	0939_QC101_220131		31/01/2022 12:51 PM	Water	ALS: 2 Non ALS: 0	No	X		
012	0939_QC201_220131	Please forward to NMI sydney (analysis for PFAS 28 analyte suite)	31/01/2022 12:53 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
013	0939_MW2177_220131		31/01/2022 01:06 PM	Water	ALS: 4 Non ALS: 0	No	X		Extra samples for lab QCs
014	0939_MW2176_220131	Extra samples for lab QC	31/01/2022 01:21 PM	Water	ALS: 4 Non ALS: 0	No	X		extra samples for lab QC
015	0939_MW2175_220131		31/01/2022 01:33 PM	Water	ALS: 4 Non ALS: 0	No	X		
016	0939_MW2172_220131		31/01/2022 01:49 PM	Water	ALS: 2 Non ALS: 0	No	X		
017	0939_MW2173_220131		31/01/2022 01:57 PM	Water	ALS: 2 Non ALS: 0	No	X		
018	0939_MW2129_220131		31/01/2022 02:22 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS		ADDITIONAL INFORMATION
019	0939_MW2145_220131		31/01/2022 02:34 PM	Water	ALS: 2 Non ALS: 0	No	X			
020	0939_MW2169_220131		31/01/2022 02:47 PM	Water	ALS: 2 Non ALS: 0	No	X			
021	0939_MW2139_220131		31/01/2022 03:01 PM	Water	ALS: 2 Non ALS: 0	No	X			
022	0939_QC102_220131		31/01/2022 03:03 PM	Water	ALS: 2 Non ALS: 0	No	X			
023	0939_QC202_220131	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	31/01/2022 03:04 PM	Water	ALS: 2 Non ALS: 0	Yes	-			
024	0939_MW2166_220131	Extra samples for lab dups	31/01/2022 03:18 PM	Water	ALS: 4 Non ALS: 0	No	X			
025	0939_MW2120_220131	Extra samples for lab QC	31/01/2022 03:41 PM	Water	ALS: 4 Non ALS: 0	No	X			
026	0939_MW2270_220131	Extra samples for lab qc	31/01/2022 03:49 PM	Water	ALS: 4 Non ALS: 0	No	X			
027	0939_MW2200_220131		31/01/2022 04:05 PM	Water	ALS: 2 Non ALS: 0	No	X			

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH:
QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:
/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0939_MW2203_220131		31/01/2022 04:23 PM	Water	ALS: 2 Non ALS: 0	No	X		
029	0939_MW2193_220131		31/01/2022 04:43 PM	Water	ALS: 2 Non ALS: 0	No	X		
030	0939_MW4078_220131		31/01/2022 05:54 PM	Water	ALS: 2 Non ALS: 0	No	X		
031	0939_MW4071_220131		31/01/2022 05:55 PM	Water	ALS: 2 Non ALS: 0	No	X		
032	0939_MW4074_220131		31/01/2022 05:56 PM	Water	ALS: 2 Non ALS: 0	No	X		
033	0939_MW4045_220131		31/01/2022 05:57 PM	Water	ALS: 2 Non ALS: 0	No	X		
034	0939_MW4070_220131		31/01/2022 05:58 PM	Water	ALS: 2 Non ALS: 0	No	X		
035	0939_MW4068_220131		31/01/2022 06:00 PM	Water	ALS: 2 Non ALS: 0	No	X		
036	0939_MW4053_220131		31/01/2022 06:01 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) *COC#:* **33073** *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0939_MW2284_220131		31/01/2022 06:02 PM	Water	ALS: 2 Non ALS: 0	No	X		
038	0939_MW2148_220131		31/01/2022 06:02 PM	Water	ALS: 2 Non ALS: 0	No	X		
039	0939_MW2272_220131		31/01/2022 06:03 PM	Water	ALS: 2 Non ALS: 0	No	X		
040	0939_MW2158_220131		31/01/2022 06:04 PM	Water	ALS: 2 Non ALS: 0	No	X		
041	0939_QC301_220131		31/01/2022 06:08 PM	Water	ALS: 2 Non ALS: 0	No	X		
042	0939_QC302_220131		31/01/2022 06:09 PM	Water	ALS: 2 Non ALS: 0	No	X		
043	0939_QC303_220131		31/01/2022 06:09 PM	Water	ALS: 2 Non ALS: 0	No	X		
044	0939_QC304_220131		31/01/2022 06:10 PM	Water	ALS: 2 Non ALS: 0	No	X		
045	0939_QC501_220131		31/01/2022 06:11 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments.

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0939_QC502_220131		31/01/2022 06:11 PM	Water	ALS: 2 Non ALS: 0	No	X		
047	0939_QC503_220131		31/01/2022 06:12 PM	Water	ALS: 2 Non ALS: 0	No	X		
048	0939_QC504_200721		31/01/2022 06:12 PM	Water	ALS: 2 Non ALS: 0	No	X		
049	0939_QC401_220131		31/01/2022 06:13 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
050	0939_MW2126_220201		01/02/2022 09:40 AM	Water	ALS: 2 Non ALS: 0	No	X		
051	0939_QC103_220201		01/02/2022 09:41 AM	Water	ALS: 2 Non ALS: 0	No	X		
052	0939_QC203_220201	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	01/02/2022 09:42 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
053	0939_MW2358_220201	Extra volume for lab QC	01/02/2022 09:50 AM	Water	ALS: 4 Non ALS: 0	No	X		
054	0939_MW2162_220201		01/02/2022 10:05 AM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

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: / ES2019AECOMAU003 0

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0939_MW2411_220201		01/02/2022 10:27 AM	Water	ALS: 2 Non ALS: 0	No	X		
056	0939_MW2394_220201		01/02/2022 10:36 AM	Water	ALS: 2 Non ALS: 0	No	X		
057	0939_MW2201_220201		01/02/2022 11:13 AM	Water	ALS: 2 Non ALS: 0	No	X		
058	0939_MW2202_220201		01/02/2022 11:21 AM	Water	ALS: 2 Non ALS: 0	No	X		
059	0939_QC104_220201		01/02/2022 11:23 AM	Water	ALS: 2 Non ALS: 0	No	X		
060	0939_QC204_220201	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	01/02/2022 11:24 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
061	0939_MW2197_220201		01/02/2022 11:58 AM	Water	ALS: 2 Non ALS: 0	No	X		
062	0939_MW2194_220201		01/02/2022 12:14 PM	Water	ALS: 2 Non ALS: 0	No	X		
063	0939_MW2150_220201		01/02/2022 12:42 PM	Water	ALS: 2 Non ALS: 0	No	X		

(EM2202065)

ALSCompass
SAMPLING Intelligence

Environmental Division
Melbourne
Work Order Reference
EM2202065

Telephone : 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: SA.0959 PFASOMP **Client:** Department of Defence **Project Manager:** [redacted]
Phone:

ALS Compass COC Reference: 33073 **# Samples:** ~~168~~ 161 **Sampler:**
Phone:
265145

Turnaround Requirements: Standard ✓ Urgent

Special Instructions:

Please see notes for samples with additional volumes for lab QC.

Custody:

Relinquished by: [redacted]	Received by:	Relinquished by:	Received by:
Date / Time: 10:15AM	Date / Time:	Date / Time:	Date / Time:

CHAIN OF CUSTODY

ALS COC# 33073 ALS Laboratory: EM Melbourne

CLIENT:	AECOMAU AECOM Australia Pty Ltd
PROJECT	SA_0939_PFASOMP
SITE:	SA_0939_PFASOMP
ORDER NO.	60612561 6.1
PROJECT MANAGER:	[redacted]
PRIMARY SAMPLER	
CONTACT PH	
QUOTE NO.	SY/139/19 V3
SAMPLER MOBILE	
EMAIL REPORTS TO	[redacted]
EMAIL INVOICES TO	

RELINQUISHED BY: | DATE/TIME

RECEIVED BY | DATE/TIME

RELINQUISHED BY | DATE/TIME

TURNAROUND REQUIREMENTS | Date

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody seal intact

Free ice / cooling media present and acceptable / arrived

Random Sample Temperature

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE/TIME	MATRIX	TOTAL BOTTLES	ON HOLD			ADDITIONAL INFORMATION
055	0939_MW2411_220201		01/02/2022 10:27 AM	Water	ALS: 2 Non ALS: 0	No			
056	0939_MW2394_220201		01/02/2022 10:36 AM	Water	ALS: 2 Non ALS: 0	No			
057	0939_MW2201_220201		01/02/2022 [illegible] AM	Water	ALS: 2 Non ALS: 0	No			
058	0939_MW2202_220201		01/02/2022 11:12 AM	Water	ALS: 2 Non ALS: 0	No	X		
059	0939_QC304_220201		01/02/2022 11:24 AM	Water	ALS: 2 Non ALS: 0	No	X		
060	0939_QC204_220201	Please forward to NMI sydney (analysis for PFAS 28 suite)	01/02/2022 11:24 AM	Water	ALS: 2 Non ALS: 0	Yes			
061	0939_MW2401_220201		01/02/2022 11:36 AM	Water	ALS: 2 Non ALS: 0	No	X		
062	0939_MW2194_220201		01/02/2022 12:13 PM	Water	ALS: 2 Non ALS: 0	No	X		
063	0939_MW2150_220201		01/02/2022 12:40 PM	Water	ALS: 2 Non ALS: 0	No	X		

(EM2201740)

CHAIN OF CUSTODY

ALS COC#: 33073 ALS Laboratory: EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS		ADDITIONAL INFORMATION
064	0939_MW2149_220201	QC sample	01/02/2022 12:53 PM	Water	ALS: 2 Non ALS: 0	No	X			
065	0939_MW2499_220201	QC sample	01/02/2022 01:00 PM	Water	ALS: 2 Non ALS: 0	No	X			
066	0939_MW2188_220201	QC sample	01/02/2022 01:17 PM	Water	ALS: 2 Non ALS: 0	No	X			
067	0939_MW2189_220201		01/02/2022 01:20 PM	Water	ALS: 2 Non ALS: 0	No	X			
068	0939_MW2112_220201	Extra vol for lab QC	01/02/2022 01:36 PM	Water	ALS: 4 Non ALS: 0	No	X			
069	0939_MW2490_220201		01/02/2022 03:22 PM	Water	ALS: 2 Non ALS: 0	No	X			
070	0939_QC105_220201	Please forward to NMI Sydney	01/02/2022 03:23 PM	Water	ALS: 2 Non ALS: 0	No	X			
071	0939_QC205_220201	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	01/02/2022 03:23 PM	Water	ALS: 2 Non ALS: 0	Yes	-			
072	0939_QC206_220201	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	01/02/2022 03:35 PM	Water	ALS: 2 Non ALS: 0	Yes	-			

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS		ADDITIONAL INFORMATION
073	0939_QC106_220201		01/02/2022 03:36 PM	Water	ALS: 2 Non ALS: 0	No	X			
074	0939_MW2130_220201		01/02/2022 03:37 PM	Water	ALS: 2 Non ALS: 0	No	X			
075	0939_MW2131_220201	Extra vol for lab QC	01/02/2022 03:57 PM	Water	ALS: 4 Non ALS: 0	No	X			
076	0939_NW2210_220201	Extra vol for lab QC	01/02/2022 03:55 PM	Water	ALS: 4 Non ALS: 0	No	X			
077	0939_MW2209_220201		01/02/2022 04:24 PM	Water	ALS: 2 Non ALS: 0	No	X			
078	0939_MW2528_220201		01/02/2022 04:32 PM	Water	ALS: 2 Non ALS: 0	No	X			
079	0939_QC107_220201		01/02/2022 04:32 PM	Water	ALS: 2 Non ALS: 0	No	X			
080	0939_QC207_220201	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	01/02/2022 04:33 PM	Water	ALS: 2 Non ALS: 0	Yes	-			
081	0939_MW2157_220201		01/02/2022 04:45 PM	Water	ALS: 2 Non ALS: 0	No	X			

CHAIN OF CUSTODY

ALS COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS		ADDITIONAL INFORMATION
082	0939_MW2114_220201		01/02/2022 04:56 PM	Water	ALS: 2 Non ALS: 0	No	X			
083	0939_QC305_220201		01/02/2022 06:15 PM	Water	ALS: 2 Non ALS: 0	No	X			
084	0939_QC306_220201		01/02/2022 06:15 PM	Water	ALS: 2 Non ALS: 0	No	X			
085	0939_QC307_220201		01/02/2022 06:16 PM	Water	ALS: 2 Non ALS: 0	No	X			
086	0939_QC505_220201		01/02/2022 06:17 PM	Water	ALS: 2 Non ALS: 0	No	X			
087	0939_QC506_220201	Please forward to NMI Sydney	01/02/2022 06:17 PM	Water	ALS: 2 Non ALS: 0	No	X			
088	0939_QC402_220201		01/02/2022 06:19 PM	Water	ALS: 2 Non ALS: 0	No	X			
089	0939_QC507_220201		01/02/2022 06:20 PM	Water	ALS: 2 Non ALS: 0	No	X			
090	0939_MW2501_220202		02/02/2022 10:20 AM	Water	ALS: 2 Non ALS: 0	No	X			

CHAIN OF CUSTODY

ALS COC#: 33073 ALS Laboratory: EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0661_MW2325_220202		02/02/2022 10:39 AM	Water	ALS: 2 Non ALS: 0	No	X		
092	0939_MW2218_220202		02/02/2022 10:55 AM	Water	ALS: 2 Non ALS: 0	No	X		
093	0939_MW2134_220202		02/02/2022 11:02 AM	Water	ALS: 2 Non ALS: 0	No	X		
094	0939_MW2216_220202		02/02/2022 11:28 AM	Water	ALS: 2 Non ALS: 0	No	X		
095	0939_MW2135_220202		02/02/2022 11:35 AM	Water	ALS: 2 Non ALS: 0	No	X		
096	0939_QC108_220202		02/02/2022 11:37 AM	Water	ALS: 2 Non ALS: 0	No	X		
097	0939_QC208_220202	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	02/02/2022 11:38 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
098	0939_MW2159_220202	Extra vol for lab QC	02/02/2022 12:05 PM	Water	ALS: 4 Non ALS: 0	No	X		
099	0939_MW4218_220202		02/02/2022 12:28 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939 PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER. [redacted]
PRIMARY SAMPLER:

CONTACT PH:
QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:
/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
100	0939_MW4061_220202		02/02/2022 01:35 PM	Water	ALS: 2 Non ALS: 0	No	X		
101	0939_MW4065_220202		02/02/2022 01:50 PM	Water	ALS: 2 Non ALS: 0	No	X		
102	0939_MW4021_220202		02/02/2022 02:04 PM	Water	ALS: 2 Non ALS: 0	No	X		
103	0939_MW4020_220202		02/02/2022 02:15 PM	Water	ALS: 2 Non ALS: 0	No	X		
104	0939_MW4009_220202	Extra vol for lab QC	02/02/2022 02:30 PM	Water	ALS: 4 Non ALS: 0	No	X		
105	0939_MW4022_220202	Extra vol for lab QC	02/02/2022 02:39 PM	Water	ALS: 4 Non ALS: 0	No	X		
106	0939_MW4024_220202		02/02/2022 02:58 PM	Water	ALS: 2 Non ALS: 0	No	X		
107	0939_MW4023_220202		02/02/2022 03:06 PM	Water	ALS: 2 Non ALS: 0	No	X		
108	0939_QC109_220202		02/02/2022 03:06 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
109	0939_QC209_220202	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	02/02/2022 03:07 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
110	0939_MW4060_220202		02/02/2022 03:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
111	0939_MW4077_220202	Extra vol for lab QC	02/02/2022 03:42 PM	Water	ALS: 4 Non ALS: 0	No	X		
112	0939_MW4059_220202		02/02/2022 03:51 PM	Water	ALS: 2 Non ALS: 0	No	X		
113	0939_MW4027_220202		02/02/2022 04:09 PM	Water	ALS: 2 Non ALS: 0	No	X		
114	0939_MW4058_22020		02/02/2022 04:27 PM	Water	ALS: 2 Non ALS: 0	No	X		
115	0939_MW4064_220202		02/02/2022 04:42 PM	Water	ALS: 2 Non ALS: 0	No	X		
116	0939_MW4055_220202		02/02/2022 05:00 PM	Water	ALS: 2 Non ALS: 0	No	X		
117	0939_QC308_220202		02/02/2022 05:11 PM	Water	ALS: 2 Non ALS: 0	No	X		

(EM2202066)

ALSCompass
SAMPLING Intelligence

ALS

Environmental Division
Melbourne
Work Order Reference
EM2202066

Telephone : + 61-3-8549 9600

Custody Document for Submissions via ALS Compass App

Project: SA_0959 PFASAMP **Client:** Department of Defence **Project Manager:** [redacted]
Phone:

ALS Compass COC Reference: 33073 **# Samples:** ~~169~~ 161 **Sampler:** [redacted]
Phone:

Turnaround Requirements: Standard ✓ Urgent

Special Instructions:

Please see notes for samples with additional volumes for labs Qr

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
Date / Time: 10:15AM	Date / Time:	Date / Time:	Date / Time:

3/3

CHAIN OF CUSTODY

COC#: 33073 ALS Laboratory: EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: SA_0939_PFASOMP
SITE: SA_0939_PFASOMP
ORDER NO: 6061256? 6.?

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH:
QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:
/ ES2019AECOMAU0003 6

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
RECEIVED BY:
DATE TIME:

TURNAROUND REQUIREMENTS: 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:
Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE TIME	MATRIX	TOTAL BOTTLES	ON HOLD	[illegible]	[illegible]	ADDITIONAL INFORMATION
~~109~~	~~0939_QC209_220202~~	~~Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)~~	~~02/02/2022 03:07 PM~~	~~Water~~	~~ALS: 2 Non ALS: 0~~	~~Yes~~			
~~110~~	~~0939_MW4060_220202~~		~~02/02/2022 03:30 PM~~	~~Water~~	~~ALS: 2 Non ALS: 0~~	~~No~~	~~X~~		
~~111~~	~~0939_MW4077_220202~~	~~Extra vol for lab QC~~	~~02/02/2022 03:42 PM~~	~~Water~~	~~ALS: 4 Non ALS: 0~~	~~No~~	~~X~~		
112	0939_MW4059_220202		02/02/2022 03:51 PM	Water	ALS: 2 Non ALS: 0	No	X		
113	0939_MW4027_220202		02/02/2022 04:09 PM	Water	ALS: 2 Non ALS: 0	No	X		
114	0939_MW4058_22020		02/02/2022 04:27 PM	Water	ALS: 2 Non ALS: 0	No	X		
115	0939_MW4064_220202		02/02/2022 04:42 PM	Water	ALS: 2 Non ALS: 0	No	X		
116	0939_MW4055_220202		02/02/2022 05:00 PM	Water	ALS: 2 Non ALS: 0	No	X		
117	0939_QC308_220202		02/02/2022 05:1? PM	Water	ALS: 2 Non ALS: 0	No	X		

(EM2202065)

3/3

CHAIN OF CUSTODY

(ALS) COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939 PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH:
QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:
/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
118	0939_QC309_220202		02/02/2022 05:12 PM	Water	ALS: 2 Non ALS: 0	No	X		
119	0939_QC310_220202		02/02/2022 05:12 PM	Water	ALS: 2 Non ALS: 0	No	X		
120	0939_QC508_220202		02/02/2022 05:13 PM	Water	ALS: 2 Non ALS: 0	No	X		
121	0939_QC509_220202		02/02/2022 05:14 PM	Water	ALS: 2 Non ALS: 0	No	X		
122	0939_QC510_220202		02/02/2022 05:14 PM	Water	ALS: 2 Non ALS: 0	No	X		
123	0939_QC403_220202		02/02/2022 05:15 PM	Water	ALS: 2 Non ALS: 0	No	X		
124	0939_MW4079_220203		03/02/2022 09:23 AM	Water	ALS: 2 Non ALS: 0	No	X		
125	0939_MW4073_220203		03/02/2022 09:36 AM	Water	ALS: 2 Non ALS: 0	No	X		
126	0939_MW4066_220203		03/02/2022 09:39 AM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
127	0939_QC110_220203		03/02/2022 09:48 AM	Water	ALS: 2 Non ALS: 0	No	X		
128	0939_QC210_220203	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	03/02/2022 09:49 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
129	0939_MW4067_220203		03/02/2022 09:49 AM	Water	ALS: 2 Non ALS: 0	No	X		
130	0939_MW4015_220203		03/02/2022 12:16 PM	Water	ALS: 2 Non ALS: 0	No	X		
131	0939_MW4035_220203		03/02/2022 11:32 AM	Water	ALS: 2 Non ALS: 0	No	X		
132	0939_MW4003_220203		03/02/2022 12:49 PM	Water	ALS: 2 Non ALS: 0	No	X		
133	0939_MW4219_220203		03/02/2022 01:56 PM	Water	ALS: 2 Non ALS: 0	No	X		
134	0939_MW4072_220203		03/02/2022 03:00 PM	Water	ALS: 2 Non ALS: 0	No	X		
135	0939_MW4052_220203		03/02/2022 03:13 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 33073 ALS Laboratory: EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
136	0939_MW4037_220203		03/02/2022 03:34 PM	Water	ALS: 2 Non ALS: 0	No	X		
137	0939_QC111_220203		03/02/2022 03:40 PM	Water	ALS: 2 Non ALS: 0	No	X		
138	0939_QC211_220203	Please forward to NMI sydney (analysis for PFAS - 28 analyte suite)	03/02/2022 03:42 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
139	0939_MW4041_220203		03/02/2022 03:54 PM	Water	ALS: 2 Non ALS: 0	No	X		
140	0939_MW4220_220203		03/02/2022 04:11 PM	Water	ALS: 2 Non ALS: 0	No	X		
141	0939_QC311_220203		03/02/2022 05:23 PM	Water	ALS: 2 Non ALS: 0	No	X		
142	0939_QC312_220203		03/02/2022 05:25 PM	Water	ALS: 2 Non ALS: 0	No	X		
143	0939_QC511_220203		03/02/2022 05:25 PM	Water	ALS: 2 Non ALS: 0	No	X		
144	0939_QC512_220203		03/02/2022 05:25 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

COC#: 33073 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

PROJECT MANAGER: [redacted]
PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS		ADDITIONAL INFORMATION
154	0939_MW4013_220204		04/02/2022 10:18 AM	Water	ALS: 2 Non ALS: 0	No	X			
155	0939_QC113_220204		04/02/2022 10:19 AM	Water	ALS: 2 Non ALS: 0	Yes	-			
156	0939_QC213_220204		04/02/2022 10:24 AM	Water	ALS: 2 Non ALS: 0	Yes	-			
157	0939_MW4223_220204		04/02/2022 10:56 AM	Water	ALS: 2 Non ALS: 0	No	X			
158	0939_MW2116_220204		04/02/2022 11:39 AM	Water	ALS: 2 Non ALS: 0	No	X			
159	0939_QC514_220204		04/02/2022 12:48 PM	Water	ALS: 2 Non ALS: 0	No	X			
160	0939_QC314_220204		04/02/2022 12:49 PM	Water	ALS: 2 Non ALS: 0	No	X			
161	0939_QC405_220204		04/02/2022 12:50 PM	Water	ALS: 2 Non ALS: 0	No	X			

Appendix E

Laboratory Certificates

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2201740**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: +[redacted]
Project	: SA_0939_PFASOMP	Page	: 1 of 4
Order number	: 60612561 6.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: 33073	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: SA_0939_PFASOMP		
Sampler	: [redacted]		

Dates

Date Samples Received	: 09-Feb-2022 11:16	Issue Date	: 10-Feb-2022
Client Requested Due Date	: 16-Feb-2022	Scheduled Reporting Date	: **16-Feb-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 20.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 56 / 55

General Comments

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

Sample Container(s)/Preservation Non-Compliances

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

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

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2201740-014	: 31-Jan-2022 13:21	: 0939_MW2176_220131 - Extra samples for lab QC
EM2201740-024	: 31-Jan-2022 15:18	: 0939_MW2166_220131 - Extra samples for lab dups
EM2201740-025	: 31-Jan-2022 15:41	: 0939_MW2120_220131 - Extra samples for lab QC
EM2201740-026	: 31-Jan-2022 15:49	: 0939_MW2270_220131 - Extra samples for lab qc
EM2201740-053	: 01-Feb-2022 09:50	: 0939_MW2358_220201 - Extra volume for lab QC

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2201740-001	31-Jan-2022 10:21	0939_MW2137_220131		✓
EM2201740-002	31-Jan-2022 10:47	0939_MW2185_220131		✓
EM2201740-003	31-Jan-2022 10:59	0939_MW2184_220131		✓
EM2201740-004	31-Jan-2022 11:10	0939_MW2281_220131		✓
EM2201740-005	31-Jan-2022 11:20	0939_MW2286_220131		✓
EM2201740-006	31-Jan-2022 11:41	0939_MW2183_220131		✓
EM2201740-007	31-Jan-2022 11:52	0939_MW2182_220131		✓
EM2201740-008	31-Jan-2022 12:08	0939_MW2285_220131		✓
EM2201740-009	31-Jan-2022 12:26	0939_MW2275_220131		✓
EM2201740-010	31-Jan-2022 12:48	0939_MW2180_220131		✓
EM2201740-011	31-Jan-2022 12:51	0939_QC101_220131		✓
EM2201740-013	31-Jan-2022 13:06	0939_MW2177_220131		✓
EM2201740-014	31-Jan-2022 13:21	0939_MW2176_220131 ...		✓
EM2201740-015	31-Jan-2022 13:33	0939_MW2175_220131		✓
EM2201740-016	31-Jan-2022 13:49	0939_MW2172_220131		✓
EM2201740-017	31-Jan-2022 13:57	0939_MW2173_220131		✓
EM2201740-018	31-Jan-2022 14:22	0939_MW2129_220131		✓
EM2201740-019	31-Jan-2022 14:34	0939_MW2145_220131		✓
EM2201740-020	31-Jan-2022 14:47	0939_MW2169_220131		✓
EM2201740-021	31-Jan-2022 15:01	0939_MW2139_220131		✓
EM2201740-022	31-Jan-2022 15:03	0939_QC102_220131		✓
EM2201740-024	31-Jan-2022 15:18	0939_MW2166_220131 ...		✓
EM2201740-025	31-Jan-2022 15:41	0939_MW2120_220131 ...		✓
EM2201740-026	31-Jan-2022 15:49	0939_MW2270_220131 ...		✓
EM2201740-027	31-Jan-2022 16:05	0939_MW2200_220131		✓
EM2201740-028	31-Jan-2022 16:23	0939_MW2203_220131		✓
EM2201740-029	31-Jan-2022 16:43	0939_MW2193_220131		✓
EM2201740-030	31-Jan-2022 17:54	0939_MW4078_220131		✓
EM2201740-031	31-Jan-2022 17:55	0939_MW4071_220131		✓
EM2201740-032	31-Jan-2022 17:56	0939_MW4074_220131		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2201740-033	31-Jan-2022 17:57	0939_MW4045_220131		✓
EM2201740-034	31-Jan-2022 17:58	0939_MW4070_220131		✓
EM2201740-035	31-Jan-2022 18:00	0939_MW4068_220131		✓
EM2201740-036	31-Jan-2022 18:01	0939_MW4053_220131		✓
EM2201740-037	31-Jan-2022 18:02	0939_MW2284_220131		✓
EM2201740-038	31-Jan-2022 18:02	0939_MW2148_220131		✓
EM2201740-039	31-Jan-2022 18:03	0939_MW2272_220131		✓
EM2201740-040	31-Jan-2022 18:04	0939_MW2158_220131		✓
EM2201740-041	31-Jan-2022 18:08	0939_QC301_220131		✓
EM2201740-042	31-Jan-2022 18:09	0939_QC302_220131		✓
EM2201740-043	31-Jan-2022 18:09	0939_QC303_220131		✓
EM2201740-044	31-Jan-2022 18:10	0939_QC304_220131		✓
EM2201740-045	31-Jan-2022 18:11	0939_QC501_220131		✓
EM2201740-046	31-Jan-2022 18:11	0939_QC502_220131		✓
EM2201740-047	31-Jan-2022 18:12	0939_QC503_220131		✓
EM2201740-048	31-Jan-2022 18:12	0939_QC504_200721		✓
EM2201740-049	31-Jan-2022 18:13	0939_QC401_220131	✓	
EM2201740-050	01-Feb-2022 09:40	0939_MW2126_220201		✓
EM2201740-051	01-Feb-2022 09:41	0939_QC103_220201		✓
EM2201740-053	01-Feb-2022 09:50	0939_MW2358_220201 ...		✓
EM2201740-054	01-Feb-2022 10:05	0939_MW2162_220201		✓
EM2201740-055	01-Feb-2022 10:27	0939_MW2411_220201		✓
EM2201740-056	01-Feb-2022 10:36	0939_MW2394_220201		✓
EM2201740-057	01-Feb-2022 11:13	0939_MW2201_220201		✓
EM2201740-058	01-Feb-2022 11:21	0939_MW2202_220201		✓
EM2201740-059	01-Feb-2022 11:23	0939_QC104_220201		✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) — Email [redacted]

APCORP

- A4 - AU Tax Invoice (INV) — Email [redacted]

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

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

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2201740**	Page	: 1 of 14
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022
Order number	: 60612561 6.1	Date Analysis Commenced	: 12-Feb-2022
C-O-C number	: 33073	Issue Date	: 15-Feb-2022
Sampler	: [redacted]		
Site	: SA_0939_PFASOMP		
Quote number	: SY/139/19 V3		
No. of samples received	: 56		
No. of samples analysed	: 55		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4169533)									
EM2201740-013	0939_MW2177_220131	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.06	2.98	2.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.93	3.56	19.3	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.15	0.14	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	0.22	7.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.32	0.32	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EM2201740-015	0939_MW2175_220131	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.24	0.22	7.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.05	31.6	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.05	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: 4169536)									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	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
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.84	0.84	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.44	0.42	4.3	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.14	0.13	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: 4169536) - continued									
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.16	0.16	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.04	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4171181)									
EM2201740-053	0939_MW2358_220201 Extra volume for lab QC	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	49.0	46.3	5.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	32.6	32.1	1.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	6.28	6.31	0.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	8.69	7.86	10.1	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	3.78	3.33	12.6	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4169533)									
EM2201740-013	0939_MW2177_220131	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.15	0.16	7.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.60	0.60	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.06	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
EM2201740-015	0939_MW2175_220131	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	0.03	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
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4169536)									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	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

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: 4169536) - continued									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	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
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.04	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.19	0.18	5.9	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4171181)									
EM2201740-053	0939_MW2358_220201 Extra volume for lab QC	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.95	1.86	4.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	2.45	2.37	3.6	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	13.4	12.9	3.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.62	1.58	2.3	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.6	0.7	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4169533)									
EM2201740-013	0939_MW2177_220131	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4169533) - continued									
EM2201740-013	0939_MW2177_220131	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
EM2201740-015	0939_MW2175_220131	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: 4169536)									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	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
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	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: 4169536) - continued									
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	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: 4171181)									
EM2201740-053	0939_MW2358_220201 Extra volume for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4169533)									
EM2201740-013	0939_MW2177_220131	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
EM2201740-015	0939_MW2175_220131	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: 4169533) - continued									
EM2201740-015	0939_MW2175_220131	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: 4169536)									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	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
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4171181)									
EM2201740-053	0939_MW2358_220201 Extra volume for lab QC	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: 4169533)									
EM2201740-013	0939_MW2177_220131	EP231X: Sum of PFAS	----	0.01	µg/L	7.59	8.12	6.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.99	6.54	8.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	7.04	7.58	7.4	0% - 20%
EM2201740-015	0939_MW2175_220131	EP231X: Sum of PFAS	----	0.01	µg/L	0.46	0.40	14.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.32	0.27	16.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.40	0.35	13.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 4169536)									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231P: PFAS Sums (QC Lot: 4169536) - continued									
EM2201740-024	0939_MW2166_220131 Extra samples for lab dups	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
EM2201740-026	0939_MW2270_220131 Extra samples for lab qc	EP231X: Sum of PFAS	----	0.01	µg/L	1.94	1.87	3.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.28	1.26	1.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.73	1.67	3.5	0% - 20%
EP231P: PFAS Sums (QC Lot: 4171181)									
EM2201740-053	0939_MW2358_220201 Extra volume for lab QC	EP231X: Sum of PFAS	----	0.01	µg/L	120	115	4.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	81.6	78.4	4.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	108	104	3.6	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: 4169533)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	107	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	108	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	99.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	97.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	107	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4169536)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	106	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	94.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	98.7	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	114	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	96.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171181)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	90.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	96.2	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.3	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	88.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	103	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4169533)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	98.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	100	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	105	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4169536)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.0	73.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4169536) - continued								
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.7	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	98.3	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	98.3	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.7	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	98.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	100	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171181)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.3	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	89.9	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	93.4	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.1	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	80.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	70.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.5	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	74.9	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4169533)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	106	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	128	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	106	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	111	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	85.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4169536)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	106	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	126	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	104	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4169536) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	110	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	97.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	96.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4171181)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	96.3	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	115	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.5	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	87.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4169533)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	107	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	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	103	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	81.7	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4169536)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	107	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	122	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	109	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	86.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171181)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	105	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	107	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	111	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	79.8	70.0	130
EP231P: PFAS Sums (QCLot: 4169533)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231P: PFAS Sums (QCLot: 4169533) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4169536)								
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: 4171181)								
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: 4169533)							
EM2201740-014	0939_MW2176_220131 Extra samples for lab QC	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	99.8	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	120	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	97.3	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	99.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	102	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	97.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4169536)							
EM2201740-025	0939_MW2120_220131 Extra samples for lab QC	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	106	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	109	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	118	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	118	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4169533)							
EM2201740-014	0939_MW2176_220131 Extra samples for lab QC	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	106	72.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4169533) - continued							
EM2201740-014	0939_MW2176_220131 Extra samples for lab QC	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	97.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	99.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	99.1	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	96.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	98.7	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	106	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	104	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	110	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4169536)							
EM2201740-025	0939_MW2120_220131 Extra samples for lab QC	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	100	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	109	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	108	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	74.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	77.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	108	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	104	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	117	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	118	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	114	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4169533)							
EM2201740-014	0939_MW2176_220131 Extra samples for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	105	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	126	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	108	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	104	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	111	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	99.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4169536)							
EM2201740-025	0939_MW2120_220131 Extra samples for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.6	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	136	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	122	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4169536) - continued							
EM2201740-025	0939_MW2120_220131 Extra samples for lab QC	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	109	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	120	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	109	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	111	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4169533)							
EM2201740-014	0939_MW2176_220131 Extra samples for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	108	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	94.6	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4169536)							
EM2201740-025	0939_MW2120_220131 Extra samples for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	110	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	114	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	118	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	112	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2201740**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: JAMES GUZMAN	Telephone	[redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022
Site	: SA_0939_PFASOMP	Issue Date	: 15-Feb-2022
Sampler	: [redacted]	No. of samples received	: 56
Order number	: 60612561 6.1	No. of samples analysed	: 55

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.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EM2201740--025	0939_MW2120_220131 Extra	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2201740--025	0939_MW2120_220131 Extra	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Regular Sample Surrogates

Sub-Matrix: **GROUNDWATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP231S: PFAS Surrogate	EM2201740-028	0939_MW2203_220131	**13C4-PFOS**	----	55.0 %	65.0-140 %	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	5	58	8.62	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	58	3.45	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2126_220201, 0939_QC103_220201, 0939_MW2358_220201 - Extra volume for lab QC, 0939_MW2162_220201, 0939_MW2411_220201, 0939_MW2394_220201, 0939_MW2201_220201, 0939_MW2202_220201, 0939_QC104_220201	**01-Feb-2022**	**14-Feb-2022**	31-Jul-2022	✓	**14-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2137_220131, 0939_MW2185_220131, 0939_MW2184_220131, 0939_MW2281_220131, 0939_MW2286_220131, 0939_MW2183_220131, 0939_MW2182_220131, 0939_MW2285_220131, 0939_MW2275_220131, 0939_MW2180_220131, 0939_QC101_220131, 0939_MW2177_220131, 0939_MW2176_220131 - Extra samples for lab QC, 0939_MW2175_220131, 0939_MW2172_220131, 0939_MW2173_220131, 0939_MW2129_220131, 0939_MW2145_220131, 0939_MW2169_220131, 0939_MW2139_220131, 0939_QC102_220131, 0939_MW2120_220131 - Extra samples for lab QC, 0939_MW2166_220131 - Extra samples for lab dups, 0939_MW2270_220131 - Extra samples for lab qc, 0939_MW2200_220131, 0939_MW2203_220131, 0939_MW2193_220131, 0939_MW4078_220131, 0939_MW4071_220131, 0939_MW4074_220131, 0939_MW4045_220131, 0939_MW4070_220131, 0939_MW4068_220131, 0939_MW4053_220131, 0939_MW2284_220131, 0939_MW2148_220131, 0939_MW2272_220131, 0939_MW2158_220131	**31-Jan-2022**	**12-Feb-2022**	30-Jul-2022	✓	**12-Feb-2022**	30-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_QC301_220131, 0939_QC302_220131, 0939_QC303_220131, 0939_QC304_220131, 0939_QC501_220131, 0939_QC502_220131, 0939_QC503_220131, 0939_QC504_200721	**31-Jan-2022**	**14-Feb-2022**	30-Jul-2022	✓	**14-Feb-2022**	30-Jul-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2126_220201, 0939_QC103_220201, 0939_MW2358_220201 - Extra volume for lab QC, 0939_MW2162_220201, 0939_MW2411_220201, 0939_MW2394_220201, 0939_MW2201_220201, 0939_MW2202_220201, 0939_QC104_220201	**01-Feb-2022**	**14-Feb-2022**	31-Jul-2022	✓	**14-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2137_220131, 0939_MW2185_220131, 0939_MW2184_220131, 0939_MW2281_220131, 0939_MW2286_220131, 0939_MW2183_220131, 0939_MW2182_220131, 0939_MW2285_220131, 0939_MW2275_220131, 0939_MW2180_220131, 0939_QC101_220131, 0939_MW2177_220131, 0939_MW2176_220131 - Extra samples for lab QC, 0939_MW2175_220131, 0939_MW2172_220131, 0939_MW2173_220131, 0939_MW2129_220131, 0939_MW2145_220131, 0939_MW2169_220131, 0939_MW2139_220131, 0939_QC102_220131, 0939_MW2120_220131 - Extra samples for lab QC, 0939_MW2166_220131 - Extra samples for lab dups, 0939_MW2270_220131 - Extra samples for lab qc, 0939_MW2200_220131, 0939_MW2203_220131, 0939_MW2193_220131, 0939_MW4078_220131, 0939_MW4071_220131, 0939_MW4074_220131, 0939_MW4045_220131, 0939_MW4070_220131, 0939_MW4068_220131, 0939_MW4053_220131, 0939_MW2284_220131, 0939_MW2148_220131, 0939_MW2272_220131, 0939_MW2158_220131	**31-Jan-2022**	**12-Feb-2022**	30-Jul-2022	✓	**12-Feb-2022**	30-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_QC301_220131, 0939_QC302_220131, 0939_QC303_220131, 0939_QC304_220131, 0939_QC501_220131, 0939_QC502_220131, 0939_QC503_220131, 0939_QC504_200721	**31-Jan-2022**	**14-Feb-2022**	30-Jul-2022	✓	**14-Feb-2022**	30-Jul-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0939_MW2126_220201, 0939_QC103_220201, 0939_MW2358_220201 - Extra volume for lab QC, 0939_MW2162_220201, 0939_MW2411_220201, 0939_MW2394_220201, 0939_MW2201_220201, 0939_MW2202_220201, 0939_QC104_220201	**01-Feb-2022**	**14-Feb-2022**	31-Jul-2022	✓	**14-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2137_220131, 0939_MW2185_220131, 0939_MW2184_220131, 0939_MW2281_220131, 0939_MW2286_220131, 0939_MW2183_220131, 0939_MW2182_220131, 0939_MW2285_220131, 0939_MW2275_220131, 0939_MW2180_220131, 0939_QC101_220131, 0939_MW2177_220131, 0939_MW2176_220131 - Extra samples for lab QC, 0939_MW2175_220131, 0939_MW2172_220131, 0939_MW2173_220131, 0939_MW2129_220131, 0939_MW2145_220131, 0939_MW2169_220131, 0939_MW2139_220131, 0939_QC102_220131, 0939_MW2120_220131 - Extra samples for lab QC, 0939_MW2166_220131 - Extra samples for lab dups, 0939_MW2270_220131 - Extra samples for lab qc, 0939_MW2200_220131, 0939_MW2203_220131, 0939_MW2193_220131, 0939_MW4078_220131, 0939_MW4071_220131, 0939_MW4074_220131, 0939_MW4045_220131, 0939_MW4070_220131, 0939_MW4068_220131, 0939_MW4053_220131, 0939_MW2284_220131, 0939_MW2148_220131, 0939_MW2272_220131, 0939_MW2158_220131	**31-Jan-2022**	**12-Feb-2022**	30-Jul-2022	✓	**12-Feb-2022**	30-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_QC301_220131, 0939_QC302_220131, 0939_QC303_220131, 0939_QC304_220131, 0939_QC501_220131, 0939_QC502_220131, 0939_QC503_220131, 0939_QC504_200721	**31-Jan-2022**	**14-Feb-2022**	30-Jul-2022	✓	**14-Feb-2022**	30-Jul-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2126_220201, 0939_QC103_220201, 0939_MW2358_220201 - Extra volume for lab QC, 0939_MW2162_220201, 0939_MW2411_220201, 0939_MW2394_220201, 0939_MW2201_220201, 0939_MW2202_220201, 0939_QC104_220201	**01-Feb-2022**	**14-Feb-2022**	31-Jul-2022	✓	**14-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2137_220131, 0939_MW2185_220131, 0939_MW2184_220131, 0939_MW2281_220131, 0939_MW2286_220131, 0939_MW2183_220131, 0939_MW2182_220131, 0939_MW2285_220131, 0939_MW2275_220131, 0939_MW2180_220131, 0939_QC101_220131, 0939_MW2177_220131, 0939_MW2176_220131 - Extra samples for lab QC, 0939_MW2175_220131, 0939_MW2172_220131, 0939_MW2173_220131, 0939_MW2129_220131, 0939_MW2145_220131, 0939_MW2169_220131, 0939_MW2139_220131, 0939_QC102_220131, 0939_MW2120_220131 - Extra samples for lab QC, 0939_MW2166_220131 - Extra samples for lab dups, 0939_MW2270_220131 - Extra samples for lab qc, 0939_MW2200_220131, 0939_MW2203_220131, 0939_MW2193_220131, 0939_MW4078_220131, 0939_MW4071_220131, 0939_MW4074_220131, 0939_MW4045_220131, 0939_MW4070_220131, 0939_MW4068_220131, 0939_MW4053_220131, 0939_MW2284_220131, 0939_MW2148_220131, 0939_MW2272_220131, 0939_MW2158_220131	**31-Jan-2022**	**12-Feb-2022**	30-Jul-2022	✓	**12-Feb-2022**	30-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_QC301_220131, 0939_QC302_220131, 0939_QC303_220131, 0939_QC304_220131, 0939_QC501_220131, 0939_QC502_220131, 0939_QC503_220131, 0939_QC504_200721	**31-Jan-2022**	**14-Feb-2022**	30-Jul-2022	✓	**14-Feb-2022**	30-Jul-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW2126_220201, 0939_QC103_220201, 0939_MW2358_220201 - Extra volume for lab QC, 0939_MW2162_220201, 0939_MW2411_220201, 0939_MW2394_220201, 0939_MW2201_220201, 0939_MW2202_220201, 0939_QC104_220201	**01-Feb-2022**	**14-Feb-2022**	31-Jul-2022	✓	**14-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2137_220131, 0939_MW2185_220131, 0939_MW2184_220131, 0939_MW2281_220131, 0939_MW2286_220131, 0939_MW2183_220131, 0939_MW2182_220131, 0939_MW2285_220131, 0939_MW2275_220131, 0939_MW2180_220131, 0939_QC101_220131, 0939_MW2177_220131, 0939_MW2176_220131 - Extra samples for lab QC, 0939_MW2175_220131, 0939_MW2172_220131, 0939_MW2173_220131, 0939_MW2129_220131, 0939_MW2145_220131, 0939_MW2169_220131, 0939_MW2139_220131, 0939_QC102_220131, 0939_MW2120_220131 - Extra samples for lab QC, 0939_MW2166_220131 - Extra samples for lab dups, 0939_MW2270_220131 - Extra samples for lab qc, 0939_MW2200_220131, 0939_MW2203_220131, 0939_MW2193_220131, 0939_MW4078_220131, 0939_MW4071_220131, 0939_MW4074_220131, 0939_MW4045_220131, 0939_MW4070_220131, 0939_MW4068_220131, 0939_MW4053_220131, 0939_MW2284_220131, 0939_MW2148_220131, 0939_MW2272_220131, 0939_MW2158_220131	**31-Jan-2022**	**12-Feb-2022**	30-Jul-2022	✓	**12-Feb-2022**	30-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_QC301_220131, 0939_QC302_220131, 0939_QC303_220131, 0939_QC304_220131, 0939_QC501_220131, 0939_QC502_220131, 0939_QC503_220131, 0939_QC504_200721	**31-Jan-2022**	**14-Feb-2022**	30-Jul-2022	✓	**14-Feb-2022**	30-Jul-2022	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	58	**8.62**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	**5.17**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	**5.17**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	58	**3.45**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2201740**	Page	: 1 of 29
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022 11:16
Order number	: 60612561 6.1	Date Analysis Commenced	: 12-Feb-2022
C-O-C number	: 33073	Issue Date	: 15-Feb-2022 19:25
Sampler	: [redacted]		
Site	: SA_0939_PFASOMP		
Quote number	: SY/139/19 V3		
No. of samples received	: 56		
No. of samples analysed	: 55		

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

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

This 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 Contact for details.

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

- EP231X: Samples (EM2201740) required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X: Poor surrogate recovery for sample EM2201740-028 due to sample matrix interference. Confirmed by re-analysis.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2137_220131	0939_MW2185_220131	0939_MW2184_220131	0939_MW2281_220131	0939_MW2286_220131
				Sampling date / time	31-Jan-2022 10:21	31-Jan-2022 10:47	31-Jan-2022 10:59	31-Jan-2022 11:10	31-Jan-2022 11:20
					EM2201740-001	EM2201740-002	EM2201740-003	EM2201740-004	EM2201740-005
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.75**	**0.39**	<0.02	**0.11**	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.47**	**0.47**	<0.02	**0.07**	**0.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**10.5**	**3.36**	**0.02**	**0.60**	**0.36**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.47**	**0.27**	<0.02	**0.05**	**0.02**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**8.81**	**5.67**	**0.38**	**1.24**	**0.44**
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		**0.22**	**0.10**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**1.29**	**0.46**	<0.02	**0.06**	**0.03**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.12**	**0.08**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.35**	**0.18**	<0.01	**0.03**	**0.01**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2137_220131	0939_MW2185_220131	0939_MW2184_220131	0939_MW2281_220131	0939_MW2286_220131
				Sampling date / time	31-Jan-2022 10:21	31-Jan-2022 10:47	31-Jan-2022 10:59	31-Jan-2022 11:10	31-Jan-2022 11:20
					EM2201740-001	EM2201740-002	EM2201740-003	EM2201740-004	EM2201740-005
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**24.1**	**11.0**	**0.40**	**2.16**	**0.93**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**19.3**	**9.03**	**0.40**	**1.84**	**0.80**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**22.1**	**10.2**	**0.40**	**2.04**	**0.87**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.3**	**110**	**96.6**	**97.1**	**111**
13C8-PFOA	----	0.02	%		**101**	**103**	**102**	**104**	**100**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2183_220131	0939_MW2182_220131	0939_MW2285_220131	0939_MW2275_220131	0939_MW2180_220131
				Sampling date / time	31-Jan-2022 11:41	31-Jan-2022 11:52	31-Jan-2022 12:08	31-Jan-2022 12:26	31-Jan-2022 12:48
Compound	CAS Number	LOR	Unit		EM2201740-006	EM2201740-007	EM2201740-008	EM2201740-009	EM2201740-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.18**	<0.02	<0.02	<0.02	**0.49**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.24**	<0.02	<0.02	**0.04**	**1.01**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.58**	**0.02**	**0.05**	**1.23**	**39.8**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.13**	<0.02	<0.02	**0.02**	**4.78**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**3.35**	**0.05**	**0.15**	**0.16**	**38.5**
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	**0.4**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.05**	<0.02	<0.02	**0.03**	**0.97**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.28**	<0.02	<0.02	**0.19**	**4.00**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.04**	<0.02	<0.02	**0.02**	**0.64**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.09**	<0.01	<0.01	**0.12**	**4.64**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.04**
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	**0.04**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2183_220131	0939_MW2182_220131	0939_MW2285_220131	0939_MW2275_220131	0939_MW2180_220131
				Sampling date / time	31-Jan-2022 11:41	31-Jan-2022 11:52	31-Jan-2022 12:08	31-Jan-2022 12:26	31-Jan-2022 12:48
Compound	CAS Number	LOR	Unit		EM2201740-006	EM2201740-007	EM2201740-008	EM2201740-009	EM2201740-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	**0.08**	<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		**5.94**	**0.07**	**0.20**	**1.89**	**95.3**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**4.93**	**0.07**	**0.20**	**1.39**	**78.3**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**5.57**	**0.07**	**0.20**	**1.83**	**89.4**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	**115**	**121**	**110**	**95.1**
13C8-PFOA	----	0.02	%		**103**	**104**	**103**	**106**	**104**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC101_220131	0939_MW2177_220131	0939_MW2176_220131 Extra samples for lab QC	0939_MW2172_220131	0939_MW2173_220131
				Sampling date / time	31-Jan-2022 12:51	31-Jan-2022 13:06	31-Jan-2022 13:21	31-Jan-2022 13:49	31-Jan-2022 13:57
					EM2201740-011	EM2201740-013	EM2201740-014	EM2201740-016	EM2201740-017
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.53**	**0.15**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.12**	**0.23**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**44.8**	**3.06**	<0.01	**0.07**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**5.41**	**0.32**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**40.2**	**2.93**	<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		**0.4**	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**1.01**	**0.08**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**4.73**	**0.60**	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.66**	**0.07**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**5.38**	**0.15**	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.05**	<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		**0.05**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC101_220131	0939_MW2177_220131	0939_MW2176_220131 Extra samples for lab QC	0939_MW2172_220131	0939_MW2173_220131
				Sampling date / time	31-Jan-2022 12:51	31-Jan-2022 13:06	31-Jan-2022 13:21	31-Jan-2022 13:49	31-Jan-2022 13:57
					EM2201740-011	EM2201740-013	EM2201740-014	EM2201740-016	EM2201740-017
					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		**104**	**7.59**	<0.01	**0.07**	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**85.0**	**5.99**	<0.01	**0.07**	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**97.7**	**7.04**	<0.01	**0.07**	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**106**	**98.0**	**104**	**94.9**
13C8-PFOA	----	0.02	%		**102**	**100**	**106**	**103**	**103**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2145_220131	0939_MW2169_220131	0939_MW2139_220131	0939_QC102_220131	0939_MW2166_220131 Extra samples for lab dups
				Sampling date / time	31-Jan-2022 14:34	31-Jan-2022 14:47	31-Jan-2022 15:01	31-Jan-2022 15:03	31-Jan-2022 15:18
					EM2201740-019	EM2201740-020	EM2201740-021	EM2201740-022	EM2201740-024
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.09**	**0.03**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.08**	**0.05**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.58**	**0.34**	**0.13**	**0.11**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.87**	**0.05**	<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		**0.12**	**0.05**	<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		**0.03**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2145_220131	0939_MW2169_220131	0939_MW2139_220131	0939_QC102_220131	0939_MW2166_220131 Extra samples for lab dups
				Sampling date / time	31-Jan-2022 14:34	31-Jan-2022 14:47	31-Jan-2022 15:01	31-Jan-2022 15:03	31-Jan-2022 15:18
					EM2201740-019	EM2201740-020	EM2201740-021	EM2201740-022	EM2201740-024
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.83**	**0.52**	**0.13**	**0.11**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.45**	**0.39**	**0.13**	**0.11**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.71**	**0.47**	**0.13**	**0.11**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**122**	**108**	**100.0**	**103**	**97.8**
13C8-PFOA	----	0.02	%		**103**	**102**	**104**	**104**	**104**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2120_220131 Extra samples for lab QC	0939_MW2270_220131 Extra samples for lab qc	0939_MW2203_220131	0939_MW2193_220131	0939_MW4078_220131
				Sampling date / time	31-Jan-2022 15:41	31-Jan-2022 15:49	31-Jan-2022 16:23	31-Jan-2022 16:43	31-Jan-2022 17:54
					EM2201740-025	EM2201740-026	EM2201740-028	EM2201740-029	EM2201740-030
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.19**	**0.14**	**49.5**	**3.85**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.20**	**0.16**	**77.0**	**4.58**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**2.96**	**0.84**	**542**	**25.0**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.63**	**0.05**	**57.3**	**1.73**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**31.9**	**0.44**	**2880**	**44.8**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.33**	<0.02	<0.40	<0.04	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**3.4**	**0.9**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.11**	**0.04**	**23.2**	**1.77**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.66**	**0.19**	**108**	**6.88**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.13**	**0.03**	**18.3**	**1.00**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.68**	**0.05**	**39.2**	**1.49**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.40	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.40	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.40	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.40	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.40	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<1.01	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.56**	<0.02	<0.40	**0.02**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<1.01	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2120_220131 Extra samples for lab QC	0939_MW2270_220131 Extra samples for lab qc	0939_MW2203_220131	0939_MW2193_220131	0939_MW4078_220131
				Sampling date / time	31-Jan-2022 15:41	31-Jan-2022 15:49	31-Jan-2022 16:23	31-Jan-2022 16:43	31-Jan-2022 17:54
					EM2201740-025	EM2201740-026	EM2201740-028	EM2201740-029	EM2201740-030
					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	<1.01	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<1.01	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<1.01	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.40	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.40	<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	<0.40	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.40	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.40	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.40	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**38.4**	**1.94**	**3800**	**92.0**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**34.9**	**1.28**	**3420**	**69.8**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**36.6**	**1.73**	**3660**	**85.7**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.9**	**119**	**55.0**	**114**	**101**
13C8-PFOA	----	0.02	%		**101**	**110**	**87.0**	**105**	**108**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4071_220131	0939_MW4074_220131	0939_MW4045_220131	0939_MW4070_220131	0939_MW4068_220131
				Sampling date / time	31-Jan-2022 17:55	31-Jan-2022 17:56	31-Jan-2022 17:57	31-Jan-2022 17:58	31-Jan-2022 18:00
					EM2201740-031	EM2201740-032	EM2201740-033	EM2201740-034	EM2201740-035
					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	**0.24**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.29**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.08**	<0.01	**2.50**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.20**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.01**	**0.09**	**0.27**	<0.01	**5.69**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.27**
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	**0.08**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.32**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.06**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.14**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4071_220131	0939_MW4074_220131	0939_MW4045_220131	0939_MW4070_220131	0939_MW4068_220131
				Sampling date / time	31-Jan-2022 17:55	31-Jan-2022 17:56	31-Jan-2022 17:57	31-Jan-2022 17:58	31-Jan-2022 18:00
Compound	CAS Number	LOR	Unit		EM2201740-031	EM2201740-032	EM2201740-033	EM2201740-034	EM2201740-035
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<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	**0.13**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.01**	**0.09**	**0.37**	<0.01	**9.92**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.01**	**0.09**	**0.35**	<0.01	**8.19**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.01**	**0.09**	**0.37**	<0.01	**9.16**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.8**	**108**	**116**	**104**	**97.3**
13C8-PFOA	----	0.02	%		**101**	**105**	**106**	**108**	**114**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4053_220131	0939_MW2284_220131	0939_MW2148_220131	0939_MW2272_220131	0939_MW2158_220131
				Sampling date / time	31-Jan-2022 18:01	31-Jan-2022 18:02	31-Jan-2022 18:02	31-Jan-2022 18:03	31-Jan-2022 18:04
					EM2201740-036	EM2201740-037	EM2201740-038	EM2201740-039	EM2201740-040
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	**4.93**	**23.4**	**24.8**	**78.9**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.04**	**5.41**	**27.1**	**34.4**	**97.6**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.27**	**28.2**	**205**	**121**	**478**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.02**	**2.70**	**24.6**	**18.4**	**63.0**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.67**	**23.6**	**640**	**77.5**	**1490**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.04	<0.39	<0.04	<0.39
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**2.0**	<2.0	**2.1**	**6.4**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**2.70**	**6.08**	**7.85**	**28.1**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**7.50**	**30.7**	**37.2**	**138**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**1.49**	**6.43**	**6.44**	**26.8**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.02**	**3.50**	**18.0**	**11.8**	**56.2**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.98	<0.10	<0.98
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.98	<0.10	<0.98
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.98	<0.10	<0.98

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4053_220131	0939_MW2284_220131	0939_MW2148_220131	0939_MW2272_220131	0939_MW2158_220131
				Sampling date / time	31-Jan-2022 18:01	31-Jan-2022 18:02	31-Jan-2022 18:02	31-Jan-2022 18:03	31-Jan-2022 18:04
Compound	CAS Number	LOR	Unit		EM2201740-036	EM2201740-037	EM2201740-038	EM2201740-039	EM2201740-040
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.98	<0.10	<0.98
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.98	<0.10	<0.98
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.39	<0.04	<0.39
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	<0.39	<0.05	<0.39
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.39	<0.05	<0.39
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.39	<0.05	<0.39
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.39	<0.05	<0.39
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.05**	**82.0**	**981**	**341**	**2460**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.94**	**51.8**	**845**	**198**	**1970**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.99**	**73.9**	**930**	**289**	**2300**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.2**	**113**	**136**	**92.4**	**133**
13C8-PFOA	----	0.02	%		**107**	**103**	**106**	**84.9**	**95.0**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC301_220131	0939_QC302_220131	0939_QC303_220131	0939_QC304_220131	0939_QC501_220131
				Sampling date / time	31-Jan-2022 18:08	31-Jan-2022 18:09	31-Jan-2022 18:09	31-Jan-2022 18:10	31-Jan-2022 18:11
Compound	CAS Number	LOR	Unit		EM2201740-041	EM2201740-042	EM2201740-043	EM2201740-044	EM2201740-045
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC301_220131	0939_QC302_220131	0939_QC303_220131	0939_QC304_220131	0939_QC501_220131
				Sampling date / time	31-Jan-2022 18:08	31-Jan-2022 18:09	31-Jan-2022 18:09	31-Jan-2022 18:10	31-Jan-2022 18:11
Compound	CAS Number	LOR	Unit		EM2201740-041	EM2201740-042	EM2201740-043	EM2201740-044	EM2201740-045
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.4**	**101**	**98.6**	**104**	**96.6**
13C8-PFOA	----	0.02	%		**102**	**105**	**101**	**101**	**100**

Analytical Results

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

				Sample ID	0939_QC502_220131	0939_QC504_200721	0939_MW2126_220201	0939_QC103_220201	0939_MW2358_220201 Extra volume for lab QC
				Sampling date / time	31-Jan-2022 18:11	31-Jan-2022 18:12	01-Feb-2022 09:40	01-Feb-2022 09:41	01-Feb-2022 09:50
Compound	CAS Number	LOR	Unit		EM2201740-046	EM2201740-048	EM2201740-050	EM2201740-051	EM2201740-053
					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**	**0.09**	**6.28**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.11**	**0.12**	**8.69**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.75**	**0.76**	**49.0**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**0.06**	**0.06**	**3.78**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.52**	**0.51**	**32.6**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	**0.6**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**0.03**	**0.03**	**2.45**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.16**	**0.16**	**13.4**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**0.02**	**0.02**	**1.62**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.03**	**0.03**	**1.95**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC502_220131	0939_QC504_200721	0939_MW2126_220201	0939_QC103_220201	0939_MW2358_220201 Extra volume for lab QC
				Sampling date / time	31-Jan-2022 18:11	31-Jan-2022 18:12	01-Feb-2022 09:40	01-Feb-2022 09:41	01-Feb-2022 09:50
					EM2201740-046	EM2201740-048	EM2201740-050	EM2201740-051	EM2201740-053
					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	<0.09
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.09
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.04
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<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	**1.78**	**1.78**	**120**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**1.27**	**1.27**	**81.6**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**1.61**	**1.60**	**108**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**97.1**	**101**	**104**	**116**
13C8-PFOA	----	0.02	%		**102**	**97.2**	**104**	**104**	**104**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2162_220201	0939_MW2411_220201	0939_MW2394_220201	0939_MW2201_220201	0939_MW2202_220201
				Sampling date / time	01-Feb-2022 10:05	01-Feb-2022 10:27	01-Feb-2022 10:36	01-Feb-2022 11:13	01-Feb-2022 11:21
Compound	CAS Number	LOR	Unit		EM2201740-054	EM2201740-055	EM2201740-056	EM2201740-057	EM2201740-058
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.05**	**0.25**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.03**	**0.11**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.30**	**0.42**	**0.02**	**0.09**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.02**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.14**	**0.80**	**0.12**	**0.59**	<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	**0.3**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**0.05**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.04**	**0.18**	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.01**	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2162_220201	0939_MW2411_220201	0939_MW2394_220201	0939_MW2201_220201	0939_MW2202_220201
				Sampling date / time	01-Feb-2022 10:05	01-Feb-2022 10:27	01-Feb-2022 10:36	01-Feb-2022 11:13	01-Feb-2022 11:21
					EM2201740-054	EM2201740-055	EM2201740-056	EM2201740-057	EM2201740-058
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.56**	**2.14**	**0.14**	**0.68**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.44**	**1.22**	**0.14**	**0.68**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.53**	**2.01**	**0.14**	**0.68**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.0**	**98.7**	**99.6**	**101**	**87.9**
13C8-PFOA	----	0.02	%		**101**	**101**	**98.2**	**99.8**	**102**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC104_220201	----	----	----	----
				Sampling date / time	01-Feb-2022 11:23	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2201740-059	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC104_220201	----	----	----	----
				Sampling date / time	01-Feb-2022 11:23	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2201740-059	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.3**	----	----	----	----
13C8-PFOA	----	0.02	%		**99.7**	----	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_MW2175_220131	0939_MW2200_220131	----	----	----
				Sampling date / time	31-Jan-2022 13:33	31-Jan-2022 16:05	----	----	----
Compound	CAS Number	LOR	Unit		EM2201740-015	EM2201740-027	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.06**	**7.95**	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	**12.1**	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.24**	**67.5**	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**5.74**	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.08**	**46.3**	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.04	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**0.6**	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**2.18**	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.02**	**11.4**	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**1.89**	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**3.49**	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.04	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.04	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.04	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.04	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.04	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.10	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.04	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.10	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.10	----	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_MW2175_220131	0939_MW2200_220131	----	----	----
				Sampling date / time	31-Jan-2022 13:33	31-Jan-2022 16:05	----	----	----
Compound	CAS Number	LOR	Unit		EM2201740-015	EM2201740-027	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.10	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.10	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.04	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.04	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
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		**0.46**	**159**	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.32**	**114**	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.40**	**141**	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**104**	----	----	----
13C8-PFOA	----	0.02	%		**104**	**82.3**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2129_220131	0939_QC503_220131	----	----	----
				Sampling date / time	31-Jan-2022 14:22	31-Jan-2022 18:12	----	----	----
Compound	CAS Number	LOR	Unit		EM2201740-018	EM2201740-047	--------	--------	--------
					Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.52**	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.56**	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**7.03**	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.14**	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.48**	<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		**0.40**	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**2.79**	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.23**	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.43**	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_MW2129_220131	0939_QC503_220131	----	----	----
				Sampling date / time	31-Jan-2022 14:22	31-Jan-2022 18:12	----	----	----
Compound	CAS Number	LOR	Unit		EM2201740-018	EM2201740-047	--------	--------	--------
					Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**14.7**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**9.51**	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**14.0**	<0.01	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**99.3**	----	----	----
13C8-PFOA	----	0.02	%		**101**	**99.4**	----	----	----

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

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2202065**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: SA_0939_PFASOMP	Page	: 1 of 4
Order number	: 60612561 6.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 09-Feb-2022 11:16	Issue Date	: 10-Feb-2022
Client Requested Due Date	: 16-Feb-2022	Scheduled Reporting Date	: **16-Feb-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 20.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 44 / 44

General Comments

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

Sample Container(s)/Preservation Non-Compliances

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

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

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2202065-064	: [01-Feb-2022]	: 0939_MW2149_220201 - QC sample
EM2202065-065	: [01-Feb-2022]	: 0939_MW2499_220201 - QC sample
EM2202065-066	: [01-Feb-2022]	: 0939_MW2188_220201 - QC sample
EM2202065-068	: [01-Feb-2022]	: 0939_MW2112_220201 - Extra vol for lab QC
EM2202065-075	: [01-Feb-2022]	: 0939_MW2131_220201 - Extra vol for lab QC
EM2202065-076	: [01-Feb-2022]	: 0939_NW2210_220201 - Extra vol for lab QC
EM2202065-098	: [02-Feb-2022]	: 0939_MW2159_220202 - Extra vol for lab QC
EM2202065-104	: [02-Feb-2022]	: 0939_MW4009_220202 - Extra vol for lab QC
EM2202065-105	: [02-Feb-2022]	: 0939_MW4022_220202 - Extra vol for lab QC
EM2202065-111	: [02-Feb-2022]	: 0939_MW4077_220202 - Extra vol for lab QC

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2202065-061	01-Feb-2022 00:00	0939_MW2197_220201	✓
EM2202065-062	01-Feb-2022 00:00	0939_MW2194_220201	✓
EM2202065-063	01-Feb-2022 00:00	0939_MW2150_220201	✓
EM2202065-064	01-Feb-2022 00:00	0939_MW2149_220201 ...	✓
EM2202065-065	01-Feb-2022 00:00	0939_MW2499_220201 ...	✓
EM2202065-066	01-Feb-2022 00:00	0939_MW2188_220201 ...	✓
EM2202065-067	01-Feb-2022 00:00	0939_MW2189_220201	✓
EM2202065-068	01-Feb-2022 00:00	0939_MW2112_220201 ...	✓
EM2202065-069	01-Feb-2022 00:00	0939_MW2490_220201	✓
EM2202065-073	01-Feb-2022 00:00	0939_QC106_220201	✓
EM2202065-074	01-Feb-2022 00:00	0939_MW2130_220201	✓
EM2202065-075	01-Feb-2022 00:00	0939_MW2131_220201 ...	✓
EM2202065-076	01-Feb-2022 00:00	0939_NW2210_220201 ...	✓
EM2202065-077	01-Feb-2022 00:00	0939_MW2209_220201	✓
EM2202065-078	01-Feb-2022 00:00	0939_MW2528_220201	✓
EM2202065-079	01-Feb-2022 00:00	0939_QC107_220201	✓
EM2202065-081	01-Feb-2022 00:00	0939_MW2157_220201	✓
EM2202065-082	01-Feb-2022 00:00	0939_MW2114_220201	✓
EM2202065-083	01-Feb-2022 00:00	0939_QC305_220201	✓
EM2202065-084	01-Feb-2022 00:00	0939_QC306_220201	✓
EM2202065-085	01-Feb-2022 00:00	0939_QC307_220201	✓
EM2202065-086	01-Feb-2022 00:00	0939_QC505_220201	✓
EM2202065-088	01-Feb-2022 00:00	0939_QC402_220201	✓
EM2202065-089	01-Feb-2022 00:00	0939_QC507_220201	✓
EM2202065-090	02-Feb-2022 00:00	0939_MW2501_220202	✓
EM2202065-091	02-Feb-2022 00:00	0661_MW2325_220202	✓

			WATER - EP231X PFAS - Full Suite (28 analytes)
EM2202065-092	02-Feb-2022 00:00	0939_MW2218_220202	✓
EM2202065-093	02-Feb-2022 00:00	0939_MW2134_220202	✓
EM2202065-094	02-Feb-2022 00:00	0939_MW2216_220202	✓
EM2202065-095	02-Feb-2022 00:00	0939_MW2135_220202	✓
EM2202065-096	02-Feb-2022 00:00	0939_QC108_220202	✓
EM2202065-098	02-Feb-2022 00:00	0939_MW2159_220202 ...	✓
EM2202065-099	02-Feb-2022 00:00	0939_MW4218_220202	✓
EM2202065-100	02-Feb-2022 00:00	0939_MW4061_220202	✓
EM2202065-101	02-Feb-2022 00:00	0939_MW4065_220202	✓
EM2202065-102	02-Feb-2022 00:00	0939_MW4021_220202	✓
EM2202065-103	02-Feb-2022 00:00	0939_MW4020_220202	✓
EM2202065-104	02-Feb-2022 00:00	0939_MW4009_220202 ...	✓
EM2202065-105	02-Feb-2022 00:00	0939_MW4022_220202 ...	✓
EM2202065-106	02-Feb-2022 00:00	0939_MW4024_220202	✓
EM2202065-107	02-Feb-2022 00:00	0939_MW4023_220202	✓
EM2202065-108	02-Feb-2022 00:00	0939_QC109_220202	✓
EM2202065-110	02-Feb-2022 00:00	0939_MW4060_220202	✓
EM2202065-111	02-Feb-2022 00:00	0939_MW4077_220202 ...	✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	[redacted]

APCORP

- A4 - AU Tax Invoice (INV)	Email	[redacted]
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)	Email	[redacted]
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2202065**	Page	: 1 of 15
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022
Order number	: 60612561 6.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: ----	Issue Date	: 15-Feb-2022
Sampler	: ----		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 44		
No. of samples analysed	: 44		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4168628)									
EM2202065-068	0939_MW2112_220201 Extra vol for lab QC	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.42	0.45	8.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.23	2.26	1.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.04	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EM2202065-076	0939_NW2210_220201 Extra vol for lab QC	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	73.4	73.1	0.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	148	154	3.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	13.8	14.4	4.3	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	15.2	14.2	6.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	16.3	15.2	7.2	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4168630)									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	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: 4170072)									
EM2202010-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.98	0.60	47.2	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: 4170072) - continued									
EM2202010-001	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.21	0.57	91.6	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.33	0.30	9.4	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.04	<0.10	88.6	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.04	<0.10	88.6	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.10	88.6	No Limit
EM2202045-002	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4168628)									
EM2202065-068	0939_MW2112_220201 Extra vol for lab QC	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.05	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	0.07	0.07	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EM2202065-076	0939_NW2210_220201 Extra vol for lab QC	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	5.15	5.23	1.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	3.77	3.75	0.4	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	19.0	19.0	0.3	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	3.23	3.21	0.4	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.5	1.5	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4168630)									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	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: 4168630) - continued									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	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: 4170072)									
EM2202010-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	34.3	# 26.6	25.4	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	52.3	# 79.4	41.1	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	131	158	18.7	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	52.5	52.7	0.4	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	1.76	# 0.37	131	0% - 50%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.63	<0.10	145	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	0.07	<0.10	30.2	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	0.09	<0.10	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.10	88.6	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.10	<0.25	88.6	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.9	# 56.9	194	0% - 20%
EM2202045-002	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	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	0.4	0.4	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4168628)									
EM2202065-068	0939_MW2112_220201 Extra vol for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4168628) - continued									
EM2202065-068	0939_MW2112_220201 Extra vol for lab QC	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
EM2202065-076	0939_NW2210_220201 Extra vol for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4168630)									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	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: 4170072)									
EM2202010-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.10	88.6	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.10	88.6	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: 4170072) - continued									
EM2202010-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.10	88.6	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.10	<0.25	88.6	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.10	<0.25	88.6	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.10	<0.25	88.6	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.10	<0.25	88.6	No Limit
EM2202045-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4168628)									
EM2202065-068	0939_MW2112_220201 Extra vol for lab QC	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
EM2202065-076	0939_NW2210_220201 Extra vol for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4168630)									

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: 4168630) - continued									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4170072)									
EM2202010-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	0.66	0.63	3.5	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	553	# 380	37.2	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	22.1	# 1.77	170	0% - 20%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	0.11	<0.10	9.6	No Limit
EM2202045-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.07	27.6	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: 4168628)									
EM2202065-068	0939_MW2112_220201 Extra vol for lab QC	EP231X: Sum of PFAS	----	0.01	µg/L	2.91	2.96	1.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.65	2.71	2.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2.83	2.89	2.1	0% - 20%
EM2202065-076	0939_NW2210_220201 Extra vol for lab QC	EP231X: Sum of PFAS	----	0.01	µg/L	299	304	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	221	227	2.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	268	274	2.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 4168630)									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231P: PFAS Sums (QC Lot: 4168630) - continued									
EM2202065-098	0939_MW2159_220202 Extra vol for lab QC	EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4170072)									
EM2202010-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	851	758	11.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.19	1.17	1.7	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	848	757	11.3	0% - 20%
EM2202045-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.47	0.54	13.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.47	0.54	13.9	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: 4168628)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	112	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	97.8	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	99.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	88.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4168630)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	94.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	100	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	0.25 µg/L	88.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.7	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: 4170072)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	96.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	96.9	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	85.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.9	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	90.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168628)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.1	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.3	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	86.1	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168630)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.1	73.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168630) - continued								
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	98.3	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	93.1	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	98.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.5	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.7	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	107	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4170072)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	77.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	92.4	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.0	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	95.8	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	93.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	100	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	113	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168628)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	124	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	110	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.7	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	105	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168630)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	118	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	122	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168630) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	101	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	116	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4170072)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.5	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	95.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	99.7	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	104	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	92.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168628)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	94.9	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	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	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	84.3	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168630)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	97.0	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	82.3	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4170072)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	99.5	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	105	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	83.6	70.0	130
EP231P: PFAS Sums (QCLot: 4168628)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231P: PFAS Sums (QCLot: 4168628) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4168630)								
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: 4170072)								
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: 4168628)							
EM2202065-075	0939_MW2131_220201 Extra vol for lab QC	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	# Not Determined	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	# Not Determined	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4168630)							
EM2202065-104	0939_MW4009_220202 Extra vol for lab QC	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	112	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	105	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	101	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	91.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	68.9	53.0	142

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4170072)							
EM2202065-111	0939_MW4077_220202 Extra vol for lab QC	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.222 µg/L	110	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	103	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.228 µg/L	101	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	107	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	107	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168628)							
EM2202065-075	0939_MW2131_220201 Extra vol for lab QC	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	# Not Determined	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	# Not Determined	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	# Not Determined	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	121	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	94.3	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	99.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	111	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	117	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4168630)							
EM2202065-104	0939_MW4009_220202 Extra vol for lab QC	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.6	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	100	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	98.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.1	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	99.3	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.2	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	97.3	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	89.5	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	82.7	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	94.0	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4170072)							
EM2202065-111	0939_MW4077_220202 Extra vol for lab QC	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	98.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	88.6	72.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4170072) - continued							
EM2202065-111	0939_MW4077_220202 Extra vol for lab QC	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	97.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.9	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	80.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	108	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168628)							
EM2202065-075	0939_MW2131_220201 Extra vol for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	# Not Determined	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	111	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	124	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	132	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	94.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4168630)							
EM2202065-104	0939_MW4009_220202 Extra vol for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	92.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	109	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	106	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	92.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	99.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4170072)							
EM2202065-111	0939_MW4077_220202 Extra vol for lab QC	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	99.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	109	68.0	141

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4170072) - continued							
EM2202065-111	0939_MW4077_220202 Extra vol for lab QC	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	129	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	95.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	120	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	107	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168628)							
EM2202065-075	0939_MW2131_220201 Extra vol for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	107	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	# Not Determined	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	85.9	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4168630)							
EM2202065-104	0939_MW4009_220202 Extra vol for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	99.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	91.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	114	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: 4170072)							
EM2202065-111	0939_MW4077_220202 Extra vol for lab QC	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	105	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.238 µg/L	98.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	127	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.242 µg/L	99.8	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2202065**	Page	: 1 of 9
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022
Site	: ----	Issue Date	: 15-Feb-2022
Sampler	: ----	No. of samples received	: 44
Order number	: 60612561 6.1	No. of samples analysed	: 44

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202010--001	Anonymous	**Perfluorobutanoic acid (PFBA)**	375-22-4	194 %	0% - 20%	**RPD exceeds LOR based limits**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202010--001	Anonymous	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	41.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202010--001	Anonymous	**Perfluorooctanoic acid (PFOA)**	335-67-1	25.4 %	0% - 20%	**RPD exceeds LOR based limits**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202010--001	Anonymous	**Perfluorononanoic acid (PFNA)**	375-95-1	131 %	0% - 50%	**RPD exceeds LOR based limits**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2202010--001	Anonymous	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	27619-97-2	37.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2202010--001	Anonymous	**8:2 Fluorotelomer sulfonic acid (8:2 FTS)**	39108-34-4	170 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluorobutane sulfonic acid (PFBS)**	375-73-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluoropentane sulfonic acid (PFPeS)**	2706-91-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluorohexane sulfonic acid (PFHxS)**	355-46-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluorooctane sulfonic acid (PFOS)**	1763-23-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluorohexanoic acid (PFHxA)**	307-24-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluoroheptanoic acid (PFHpA)**	375-85-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	EM2202065--075	0939_MW2131_220201 Extra	**Perfluorooctanoic acid (PFOA)**	335-67-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2202065--075	0939_MW2131_220201 Extra	**6:2 Fluorotelomer sulfonic acid (6:2 FTS)**	27619-97-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	5	55	9.09	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

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

Method / ***Container*** / Client Sample ID(s)		***Sample Date***	*Extraction / Preparation*			*Analysis*		
			Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0939_MW2197_220201,	0939_MW2194_220201,	**01-Feb-2022**	**11-Feb-2022**	31-Jul-2022	✓	**11-Feb-2022**	31-Jul-2022	✓
0939_MW2150_220201,	0939_MW2149_220201 - QC sample,							
0939_MW2499_220201 - QC sample,	0939_MW2188_220201 - QC sample,							
0939_MW2189_220201,	0939_MW2112_220201 - Extra vol for lab QC,							
0939_MW2490_220201,	0939_QC106_220201,							
0939_MW2130_220201,	0939_MW2131_220201 - Extra vol for lab QC,							
0939_NW2210_220201 - Extra vol for lab QC,	0939_MW2209_220201,							
0939_MW2528_220201,	0939_QC107_220201,							
0939_MW2157_220201,	0939_MW2114_220201,							
0939_QC305_220201,	0939_QC306_220201,							
0939_QC307_220201,	0939_QC505_220201,							
0939_QC402_220201,	0939_QC507_220201							
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0939_MW2501_220202, 0661_MW2325_220202, 0939_MW2218_220202, 0939_MW2134_220202, 0939_MW2216_220202, 0939_MW2135_220202, 0939_QC108_220202, 0939_MW2159_220202 - Extra vol for lab QC, 0939_MW4218_220202, 0939_MW4061_220202, 0939_MW4065_220202, 0939_MW4021_220202, 0939_MW4020_220202, 0939_MW4009_220202 - Extra vol for lab QC, 0939_MW4024_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4022_220202 - Extra vol for lab QC, 0939_MW4023_220202, 0939_QC109_220202, 0939_MW4060_220202, 0939_MW4077_220202 - Extra vol for lab QC	**02-Feb-2022**	**14-Feb-2022**	01-Aug-2022	✓	**14-Feb-2022**	01-Aug-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2197_220201, 0939_MW2194_220201, 0939_MW2150_220201, 0939_MW2149_220201 - QC sample, 0939_MW2499_220201 - QC sample, 0939_MW2188_220201 - QC sample, 0939_MW2189_220201, 0939_MW2112_220201 - Extra vol for lab QC, 0939_MW2490_220201, 0939_QC106_220201, 0939_MW2130_220201, 0939_MW2131_220201 - Extra vol for lab QC, 0939_NW2210_220201 - Extra vol for lab QC, 0939_MW2209_220201, 0939_MW2528_220201, 0939_QC107_220201, 0939_MW2157_220201, 0939_MW2114_220201, 0939_QC305_220201, 0939_QC306_220201, 0939_QC307_220201, 0939_QC505_220201, 0939_QC402_220201, 0939_QC507_220201	**01-Feb-2022**	**11-Feb-2022**	31-Jul-2022	✓	**11-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2501_220202, 0661_MW2325_220202, 0939_MW2218_220202, 0939_MW2134_220202, 0939_MW2216_220202, 0939_MW2135_220202, 0939_QC108_220202, 0939_MW2159_220202 - Extra vol for lab QC, 0939_MW4218_220202, 0939_MW4061_220202, 0939_MW4065_220202, 0939_MW4021_220202, 0939_MW4020_220202, 0939_MW4009_220202 - Extra vol for lab QC, 0939_MW4024_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4022_220202 - Extra vol for lab QC, 0939_MW4023_220202, 0939_QC109_220202, 0939_MW4060_220202, 0939_MW4077_220202 - Extra vol for lab QC	**02-Feb-2022**	**14-Feb-2022**	01-Aug-2022	✓	**14-Feb-2022**	01-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0939_MW2197_220201, 0939_MW2194_220201, 0939_MW2150_220201, 0939_MW2149_220201 - QC sample, 0939_MW2499_220201 - QC sample, 0939_MW2188_220201 - QC sample, 0939_MW2189_220201, 0939_MW2112_220201 - Extra vol for lab QC, 0939_MW2490_220201, 0939_QC106_220201, 0939_MW2130_220201, 0939_MW2131_220201 - Extra vol for lab QC, 0939_NW2210_220201 - Extra vol for lab QC, 0939_MW2209_220201, 0939_MW2528_220201, 0939_QC107_220201, 0939_MW2157_220201, 0939_MW2114_220201, 0939_QC305_220201, 0939_QC306_220201, 0939_QC307_220201, 0939_QC505_220201, 0939_QC402_220201, 0939_QC507_220201	**01-Feb-2022**	**11-Feb-2022**	31-Jul-2022	✓	**11-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_220202, 0661_MW2325_220202, 0939_MW2218_220202, 0939_MW2134_220202, 0939_MW2216_220202, 0939_MW2135_220202, 0939_QC108_220202, 0939_MW2159_220202 - Extra vol for lab QC, 0939_MW4218_220202, 0939_MW4061_220202, 0939_MW4065_220202, 0939_MW4021_220202, 0939_MW4020_220202, 0939_MW4009_220202 - Extra vol for lab QC, 0939_MW4024_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0939_MW4022_220202 - Extra vol for lab QC, 0939_MW4023_220202, 0939_QC109_220202, 0939_MW4060_220202, 0939_MW4077_220202 - Extra vol for lab QC	**02-Feb-2022**	**14-Feb-2022**	01-Aug-2022	✓	**14-Feb-2022**	01-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0939_MW2197_220201, 0939_MW2194_220201, 0939_MW2150_220201, 0939_MW2149_220201 - QC sample, 0939_MW2499_220201 - QC sample, 0939_MW2188_220201 - QC sample, 0939_MW2189_220201, 0939_MW2112_220201 - Extra vol for lab QC, 0939_MW2490_220201, 0939_QC106_220201, 0939_MW2130_220201, 0939_MW2131_220201 - Extra vol for lab QC, 0939_NW2210_220201 - Extra vol for lab QC, 0939_MW2209_220201, 0939_MW2528_220201, 0939_QC107_220201, 0939_MW2157_220201, 0939_MW2114_220201, 0939_QC305_220201, 0939_QC306_220201, 0939_QC307_220201, 0939_QC505_220201, 0939_QC402_220201, 0939_QC507_220201	**01-Feb-2022**	**11-Feb-2022**	31-Jul-2022	✓	**11-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0939_MW2501_220202, 0661_MW2325_220202, 0939_MW2218_220202, 0939_MW2134_220202, 0939_MW2216_220202, 0939_MW2135_220202, 0939_QC108_220202, 0939_MW2159_220202 - Extra vol for lab QC, 0939_MW4218_220202, 0939_MW4061_220202, 0939_MW4065_220202, 0939_MW4021_220202, 0939_MW4020_220202, 0939_MW4009_220202 - Extra vol for lab QC, 0939_MW4024_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X) 0939_MW4022_220202 - Extra vol for lab QC, 0939_MW4023_220202, 0939_QC109_220202, 0939_MW4060_220202, 0939_MW4077_220202 - Extra vol for lab QC	**02-Feb-2022**	**14-Feb-2022**	01-Aug-2022	✓	**14-Feb-2022**	01-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW2197_220201, 0939_MW2194_220201, 0939_MW2150_220201, 0939_MW2149_220201 - QC sample, 0939_MW2499_220201 - QC sample, 0939_MW2188_220201 - QC sample, 0939_MW2189_220201, 0939_MW2112_220201 - Extra vol for lab QC, 0939_MW2490_220201, 0939_QC106_220201, 0939_MW2130_220201, 0939_MW2131_220201 - Extra vol for lab QC, 0939_NW2210_220201 - Extra vol for lab QC, 0939_MW2209_220201, 0939_MW2528_220201, 0939_QC107_220201, 0939_MW2157_220201, 0939_MW2114_220201, 0939_QC305_220201, 0939_QC306_220201, 0939_QC307_220201, 0939_QC505_220201, 0939_QC402_220201, 0939_QC507_220201	**01-Feb-2022**	**11-Feb-2022**	31-Jul-2022	✓	**11-Feb-2022**	31-Jul-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW2501_220202, 0661_MW2325_220202, 0939_MW2218_220202, 0939_MW2134_220202, 0939_MW2216_220202, 0939_MW2135_220202, 0939_QC108_220202, 0939_MW2159_220202 - Extra vol for lab QC, 0939_MW4218_220202, 0939_MW4061_220202, 0939_MW4065_220202, 0939_MW4021_220202, 0939_MW4020_220202, 0939_MW4009_220202 - Extra vol for lab QC, 0939_MW4024_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4022_220202 - Extra vol for lab QC, 0939_MW4023_220202, 0939_QC109_220202, 0939_MW4060_220202, 0939_MW4077_220202 - Extra vol for lab QC	**02-Feb-2022**	**14-Feb-2022**	01-Aug-2022	✓	**14-Feb-2022**	01-Aug-2022	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	55	**9.09**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	55	**5.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	55	**5.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	55	**5.45**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2202065**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022 11:16
Order number	: 60612561 6.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: ----	Issue Date	: 15-Feb-2022 18:52
Sampler	: ----		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 44		
No. of samples analysed	: 44		

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

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

This 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 Contact for details.

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

- EP231X: Matrix spike recovery not determined for sample EM2202065-075 due to sample matrix interference.
- EP231X: Samples (EM2202065) required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Poor duplicate precision observed for sample EM2202010-001 due to sample heterogeneity. Confirmed via re-analysis.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2197_220201	0939_MW2194_220201	0939_MW2150_220201	0939_MW2149_220201 QC sample	0939_MW2499_220201 QC sample
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
					EM2202065-061	EM2202065-062	EM2202065-063	EM2202065-064	EM2202065-065
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**15.1**	**0.06**	**0.22**	**9.77**	**0.99**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**18.1**	**0.06**	**0.29**	**13.4**	**1.06**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**140**	**0.64**	**3.84**	**66.5**	**12.5**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**14.0**	**0.05**	**0.17**	**5.18**	**1.32**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**327**	**1.16**	**9.60**	**57.7**	**222**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<1.9	<0.1	<0.1	**1.2**	<2.0
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**5.83**	**0.02**	**0.10**	**4.42**	**2.44**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**26.9**	**0.11**	**0.48**	**20.7**	**3.85**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**4.49**	<0.02	**0.06**	**3.15**	**0.56**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**9.66**	**0.04**	**0.13**	**5.73**	**2.82**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.97	<0.05	<0.05	<0.10	<1.00
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.39	<0.02	<0.02	**0.09**	<0.40
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.97	<0.05	<0.05	<0.10	<1.00

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2197_220201	0939_MW2194_220201	0939_MW2150_220201	0939_MW2149_220201 QC sample	0939_MW2499_220201 QC sample
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
					EM2202065-061	EM2202065-062	EM2202065-063	EM2202065-064	EM2202065-065
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.97	<0.05	<0.05	<0.10	<1.00
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.97	<0.05	<0.05	<0.10	<1.00
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.97	<0.05	<0.05	<0.10	<1.00
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.39	<0.02	<0.02	<0.04	<0.40
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.39	<0.05	<0.05	<0.05	<0.40
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.39	<0.05	<0.05	**0.26**	**0.49**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.39	<0.05	<0.05	<0.05	<0.40
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.39	<0.05	<0.05	<0.05	<0.40
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**561**	**2.14**	**14.9**	**188**	**248**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**467**	**1.80**	**13.4**	**124**	**234**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**529**	**2.03**	**14.4**	**169**	**246**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**123**	**100**	**102**	**117**	**132**
13C8-PFOA	----	0.02	%		**112**	**105**	**97.9**	**106**	**86.0**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2188_220201 QC sample	0939_MW2189_220201	0939_MW2112_220201 Extra vol for lab QC	0939_MW2490_220201	0939_QC106_220201
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
					EM2202065-066	EM2202065-067	EM2202065-068	EM2202065-069	EM2202065-073
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**9.12**	**14.0**	**0.04**	**88.9**	**7.50**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**15.8**	**14.7**	**0.05**	**188**	**8.68**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**90.9**	**109**	**0.42**	**1130**	**51.7**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**8.05**	**10.3**	**0.03**	**106**	**6.28**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**130**	**314**	**2.23**	**2210**	**299**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	**1.18**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.8**	<2.0	<0.1	**5.5**	**2.8**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**3.70**	**4.97**	<0.02	**34.4**	**8.09**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**17.4**	**23.2**	**0.07**	**183**	**39.4**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**2.28**	**3.50**	**0.02**	**26.3**	**7.19**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**4.66**	**8.22**	**0.05**	**77.6**	**12.5**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	**0.42**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	**0.10**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	<0.05
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	<0.05
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	<0.05
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.10	<1.01	<0.05	<0.98	<0.12
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	**0.23**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.10	<1.01	<0.05	<0.98	<0.12

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2188_220201 QC sample	0939_MW2189_220201	0939_MW2112_220201 Extra vol for lab QC	0939_MW2490_220201	0939_QC106_220201
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
					EM2202065-066	EM2202065-067	EM2202065-068	EM2202065-069	EM2202065-073
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.10	<1.01	<0.05	<0.98	<0.12
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.10	<1.01	<0.05	<0.98	<0.12
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.10	<1.01	<0.05	<0.98	<0.12
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<0.40	<0.02	<0.39	<0.05
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.40	<0.05	<0.39	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.40	<0.05	<0.39	**0.45**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.40	<0.05	<0.39	**0.24**
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.40	<0.05	<0.39	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**283**	**502**	**2.91**	**4050**	**446**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**221**	**423**	**2.65**	**3340**	**351**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**259**	**477**	**2.83**	**3760**	**429**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**98.1**	**83.0**	**102**	**132**	**107**
13C8-PFOA	----	0.02	%		**103**	**96.0**	**104**	**101**	**100**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2130_220201	0939_MW2131_220201 Extra vol for lab QC	0939_NW2210_220201 Extra vol for lab QC	0939_MW2209_220201	0939_MW2528_220201
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
					EM2202065-074	EM2202065-075	EM2202065-076	EM2202065-077	EM2202065-078
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**7.52**	**1.30**	**13.8**	<0.02	**2.86**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**7.48**	**1.68**	**15.2**	<0.02	**1.67**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**51.2**	**16.9**	**73.4**	<0.01	**11.8**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**5.01**	**0.70**	**16.3**	<0.02	**0.84**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**265**	**118**	**148**	**0.05**	**40.6**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	**0.26**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<1.9	**0.9**	**1.5**	<0.1	**10.3**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**7.91**	**4.27**	**3.77**	<0.02	**5.73**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**37.6**	**9.63**	**19.0**	<0.02	**10.2**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**6.61**	**2.89**	**3.23**	<0.02	**1.04**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**11.7**	**7.26**	**5.15**	<0.01	**1.85**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.38	**0.12**	<0.04	<0.02	**0.24**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	**0.10**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.94	<0.09	<0.10	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.38	**0.50**	<0.04	<0.02	**0.14**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.94	<0.09	<0.10	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2130_220201	0939_MW2131_220201 Extra vol for lab QC	0939_NW2210_220201 Extra vol for lab QC	0939_MW2209_220201	0939_MW2528_220201
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
					EM2202065-074	EM2202065-075	EM2202065-076	EM2202065-077	EM2202065-078
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.94	<0.09	<0.10	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.94	<0.09	<0.10	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.94	<0.09	<0.10	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.38	<0.04	<0.04	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.38	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.38	**1.80**	<0.05	<0.05	**0.17**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.38	**0.06**	<0.05	<0.05	**0.12**
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.38	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**400**	**166**	**299**	**0.05**	**87.9**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**316**	**135**	**221**	**0.05**	**52.4**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**388**	**163**	**268**	**0.05**	**84.7**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**133**	**96.6**	**102**	**109**	**122**
13C8-PFOA	----	0.02	%		**97.0**	**101**	**110**	**106**	**100**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC107_220201	0939_MW2157_220201	0939_MW2114_220201	0939_MW2501_220202	0661_MW2325_220202
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
					EM2202065-079	EM2202065-081	EM2202065-082	EM2202065-090	EM2202065-091
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**2.81**	**0.55**	**18.3**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**1.73**	**0.65**	**21.1**	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**11.8**	**4.36**	**75.2**	**0.07**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.88**	**0.45**	**12.5**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**43.0**	**12.1**	**138**	**0.17**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.25**	<0.02	<0.04	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**10.3**	**0.1**	**1.9**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**5.89**	**0.21**	**4.68**	**0.04**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**10.3**	**1.09**	**24.8**	**0.04**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**1.04**	**0.16**	**6.44**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**1.88**	**0.34**	**12.2**	**0.02**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.24**	<0.02	<0.04	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.10**	<0.02	<0.04	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.14**	<0.02	<0.04	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC107_220201	0939_MW2157_220201	0939_MW2114_220201	0939_MW2501_220202	0661_MW2325_220202
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202065-079	EM2202065-081	EM2202065-082	EM2202065-090	EM2202065-091
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.10	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.04	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.17**	<0.05	**0.51**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.12**	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**90.6**	**20.0**	**316**	**0.34**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**54.8**	**16.5**	**213**	**0.24**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**87.3**	**18.9**	**282**	**0.34**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**119**	**114**	**101**	**101**	**102**
13C8-PFOA	----	0.02	%		**109**	**105**	**102**	**95.8**	**97.8**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2218_220202	0939_MW2134_220202	0939_MW2216_220202	0939_MW2135_220202	0939_QC108_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
					EM2202065-092	EM2202065-093	EM2202065-094	EM2202065-095	EM2202065-096
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<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	**0.05**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2218_220202	0939_MW2134_220202	0939_MW2216_220202	0939_MW2135_220202	0939_QC108_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202065-092	EM2202065-093	EM2202065-094	EM2202065-095	EM2202065-096
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.05**	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.05**	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.05**	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**102**	**114**	**113**	**105**
13C8-PFOA	----	0.02	%		**104**	**98.0**	**101**	**107**	**93.4**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2159_220202 Extra vol for lab QC	0939_MW4218_220202	0939_MW4061_220202	0939_MW4065_220202	0939_MW4021_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
					EM2202065-098	EM2202065-099	EM2202065-100	EM2202065-101	EM2202065-102
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.04**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.03**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.28**	**0.01**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.06**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**1.14**	<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	**0.05**	<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	**0.03**	<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**)

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2159_220202 Extra vol for lab QC	0939_MW4218_220202	0939_MW4061_220202	0939_MW4065_220202	0939_MW4021_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
					EM2202065-098	EM2202065-099	EM2202065-100	EM2202065-101	EM2202065-102
					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	**1.63**	**0.01**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**1.42**	**0.01**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**1.54**	**0.01**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**112**	**104**	**113**	**97.1**	**109**
13C8-PFOA	----	0.02	%		**96.2**	**102**	**102**	**92.5**	**99.5**

Analytical Results

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

				Sample ID	0939_MW4020_220202	0939_MW4009_220202 Extra vol for lab QC	0939_MW4022_220202 Extra vol for lab QC	0939_MW4024_220202	0939_MW4023_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
Compound	*CAS Number*	*LOR*	*Unit*		**EM2202065-103**	**EM2202065-104**	**EM2202065-105**	**EM2202065-106**	**EM2202065-107**
					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	**0.05**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	**0.08**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	**0.53**	**0.87**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	**0.08**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.42**	**0.80**
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	**0.08**	**0.14**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.02**	**0.04**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4020_220202	0939_MW4009_220202 Extra vol for lab QC	0939_MW4022_220202 Extra vol for lab QC	0939_MW4024_220202	0939_MW4023_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
					EM2202065-103	EM2202065-104	EM2202065-105	EM2202065-106	EM2202065-107
					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	**1.13**	**2.08**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.95**	**1.67**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	**1.05**	**1.92**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**110**	**104**	**114**	**109**
13C8-PFOA	----	0.02	%		**105**	**95.4**	**109**	**94.4**	**104**

Analytical Results

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

				Sample ID	0939_QC109_220202	0939_MW4060_220202	0939_MW4077_220202 Extra vol for lab QC	----	----
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2202065-108	EM2202065-110	EM2202065-111	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.04**	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.08**	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.88**	<0.01	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.08**	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.80**	<0.01	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.02**	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.15**	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.04**	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC109_220202	0939_MW4060_220202	0939_MW4077_220202 Extra vol for lab QC	----	----
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2202065-108	EM2202065-110	EM2202065-111	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**2.09**	<0.01	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.68**	<0.01	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.93**	<0.01	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	**103**	**102**	----	----
13C8-PFOA	----	0.02	%		**109**	**102**	**106**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC305_220201	0939_QC306_220201	0939_QC307_220201	0939_QC505_220201	0939_QC402_220201
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202065-083	EM2202065-084	EM2202065-085	EM2202065-086	EM2202065-088
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC305_220201	0939_QC306_220201	0939_QC307_220201	0939_QC505_220201	0939_QC402_220201
				Sampling date / time	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00	01-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202065-083	EM2202065-084	EM2202065-085	EM2202065-086	EM2202065-088
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**110**	**108**	**110**	**114**
13C8-PFOA	----	0.02	%		**103**	**105**	**94.1**	**101**	**109**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC507_220201	----	----	----	----
				Sampling date / time	01-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2202065-089	--------	--------	--------	--------
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC507_220201	----	----	----	----
				Sampling date / time	01-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2202065-089	--------	--------	--------	--------
					Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	----	----	----	----
13C8-PFOA	----	0.02	%		**104**	----	----	----	----

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: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2202066**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Facsimile	: ----	Facsimile	: [redacted]
Project	: SA_0939_PFASOMP	Page	: 1 of 4
Order number	: 60612561 6.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 09-Feb-2022 11:16	Issue Date	: 10-Feb-2022
Client Requested Due Date	: 16-Feb-2022	Scheduled Reporting Date	: **16-Feb-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 2	Temperature	: 20.3°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 48 / 43

General Comments

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

Sample Container(s)/Preservation Non-Compliances

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

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

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2202066-147 : [04-Feb-2022] : 0939_MW4222_220204 - Extra vol for lab qc

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2202066-112	02-Feb-2022 00:00	0939_MW4059_220202		✓
EM2202066-113	02-Feb-2022 00:00	0939_MW4027_220202		✓
EM2202066-114	02-Feb-2022 00:00	0939_MW4058_22020		✓
EM2202066-115	02-Feb-2022 00:00	0939_MW4064_220202		✓
EM2202066-116	02-Feb-2022 00:00	0939_MW4055_220202		✓
EM2202066-117	02-Feb-2022 00:00	0939_QC308_220202		✓
EM2202066-118	02-Feb-2022 00:00	0939_QC309_220202		✓
EM2202066-119	02-Feb-2022 00:00	0939_QC310_220202		✓
EM2202066-120	02-Feb-2022 00:00	0939_QC508_220202		✓
EM2202066-121	02-Feb-2022 00:00	0939_QC509_220202		✓
EM2202066-122	02-Feb-2022 00:00	0939_QC510_220202		✓
EM2202066-123	02-Feb-2022 00:00	0939_QC403_220202		✓
EM2202066-124	03-Feb-2022 00:00	0939_MW4079_220203		✓
EM2202066-125	03-Feb-2022 00:00	0939_MW4073_220203		✓
EM2202066-126	03-Feb-2022 00:00	0939_MW4066_220203		✓
EM2202066-127	03-Feb-2022 00:00	0939_QC110_220203		✓
EM2202066-129	03-Feb-2022 00:00	0939_MW4057_220203		✓
EM2202066-130	03-Feb-2022 00:00	0939_MW4015_220203		✓
EM2202066-131	03-Feb-2022 00:00	0939_MW4035_220203		✓
EM2202066-132	03-Feb-2022 00:00	0939_MW4003_220203		✓
EM2202066-133	03-Feb-2022 00:00	0939_MW4219_220203		✓
EM2202066-134	03-Feb-2022 00:00	0939_MW4072_220203		✓
EM2202066-135	03-Feb-2022 00:00	0939_MW4052_220203		✓
EM2202066-136	03-Feb-2022 00:00	0939_MW4037_220203		✓
EM2202066-137	03-Feb-2022 00:00	0939_QC111_220203		✓
EM2202066-139	03-Feb-2022 00:00	0939_MW4041_220203		✓
EM2202066-140	03-Feb-2022 00:00	0939_MW4220_220203		✓
EM2202066-141	03-Feb-2022 00:00	0939_QC311_220203		✓
EM2202066-142	03-Feb-2022 00:00	0939_QC312_220203		✓
EM2202066-143	03-Feb-2022 00:00	0939_QC511_220203		✓
EM2202066-144	03-Feb-2022 00:00	0939_QC512_220203		✓
EM2202066-145	04-Feb-2022 00:00	0939_QC404_220203	✓	
EM2202066-146	04-Feb-2022 00:00	0939_MW4221_220204		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2202066-147	04-Feb-2022 00:00	0939_MW4222_220204 ...		✓
EM2202066-148	04-Feb-2022 00:00	0939_MW4075_220204		✓
EM2202066-149	04-Feb-2022 00:00	0939_MW4069_220204		✓
EM2202066-150	04-Feb-2022 00:00	0939_MW4048_220204		✓
EM2202066-151	04-Feb-2022 00:00	0939_MW4001_220204		✓
EM2202066-152	04-Feb-2022 00:00	0939_QC112_220204	✓	
EM2202066-153	04-Feb-2022 00:00	0939_QC212_220204	✓	
EM2202066-154	04-Feb-2022 00:00	0939_MW4013_220204		✓
EM2202066-155	04-Feb-2022 00:00	0939_QC113_220204	✓	
EM2202066-156	04-Feb-2022 00:00	0939_QC213_220204	✓	
EM2202066-157	04-Feb-2022 00:00	0939_MW4223_220204		✓
EM2202066-158	04-Feb-2022 00:00	0939_MW2116_220204		✓
EM2202066-159	04-Feb-2022 00:00	0939_QC514_220204		✓
EM2202066-160	04-Feb-2022 00:00	0939_QC314_220204		✓
EM2202066-161	04-Feb-2022 00:00	0939_QC405_220204		✓

Proactive Holding Time Report

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

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	[redacted]

AP CORP

- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- A4 - AU Tax Invoice (INV)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)	Email	[redacted]
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	
- EDI Format - XTab (XTAB)	Email	
[redacted]		
- *AU Certificate of Analysis - NATA (COA)	Email	[redacted]
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	
- Chain of Custody (CoC) (COC)	Email	
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	
- EDI Format - ESDAT (ESDAT)	Email	

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2202066**	Page	: 1 of 6
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022
Order number	: 60612561 6.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: ----	Issue Date	: 14-Feb-2022
Sampler	: ----		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 48		
No. of samples analysed	: 43		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
[redacted]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4166976)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	96.0	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	94.3	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	91.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	93.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	84.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4166983)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	93.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	86.8	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	84.0	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	82.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	105	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	86.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4167005)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	110	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	101	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	93.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	94.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4166976)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	85.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	94.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.1	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	93.1	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	96.9	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.3	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.1	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4166983)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.4	73.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4166983) - continued								
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	90.9	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	88.1	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.4	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	86.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	86.9	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	84.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.5	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	91.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4167005)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	102	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	98.3	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.3	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	96.7	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.1	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4166976)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	86.0	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	98.4	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	87.7	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.1	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.9	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4166983)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	93.9	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.3	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4166983) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.8	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	94.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4167005)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	125	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	112	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	97.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	120	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4166976)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	105	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	89.9	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	111	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	89.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4166983)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	92.1	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	91.9	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	75.4	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4167005)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	109	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	106	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	120	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	84.0	70.0	130
EP231P: PFAS Sums (QCLot: 4166976)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231P: PFAS Sums (QCLot: 4166976) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4166983)								
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: 4167005)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2202066**	Page	: 1 of 8
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022
Site	: ----	Issue Date	: 14-Feb-2022
Sampler	: ----	No. of samples received	: 48
Order number	: 60612561 6.1	No. of samples analysed	: 43

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	46	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	46	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4059_220202, 0939_MW4027_220202, 0939_MW4058_22020, 0939_MW4064_220202, 0939_MW4055_220202, 0939_QC308_220202, 0939_QC309_220202, 0939_QC310_220202, 0939_QC508_220202, 0939_QC509_220202, 0939_QC510_220202, 0939_QC403_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4079_220203, 0939_MW4073_220203, 0939_MW4066_220203, 0939_QC110_220203, 0939_MW4057_220203, 0939_MW4015_220203, 0939_MW4035_220203, 0939_MW4003_220203, 0939_MW4219_220203, 0939_MW4072_220203, 0939_MW4052_220203, 0939_MW4037_220203, 0939_QC111_220203, 0939_MW4041_220203, 0939_MW4220_220203, 0939_QC311_220203, 0939_QC312_220203, 0939_QC511_220203, 0939_QC512_220203	**03-Feb-2022**	**11-Feb-2022**	02-Aug-2022	✓	**11-Feb-2022**	02-Aug-2022	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0939_MW4221_220204, 0939_MW4222_220204 - Extra vol for lab qc, 0939_MW4075_220204, 0939_MW4069_220204, 0939_MW4048_220204, 0939_MW4001_220204, 0939_MW4013_220204, 0939_MW4223_220204, 0939_MW2116_220204, 0939_QC514_220204, 0939_QC314_220204, 0939_QC405_220204	**04-Feb-2022**	**11-Feb-2022**	03-Aug-2022	✓	**11-Feb-2022**	03-Aug-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4059_220202, 0939_MW4027_220202, 0939_MW4058_22020, 0939_MW4064_220202, 0939_MW4055_220202, 0939_QC308_220202, 0939_QC309_220202, 0939_QC310_220202, 0939_QC508_220202, 0939_QC509_220202, 0939_QC510_220202, 0939_QC403_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4079_220203, 0939_MW4073_220203, 0939_MW4066_220203, 0939_QC110_220203, 0939_MW4057_220203, 0939_MW4015_220203, 0939_MW4035_220203, 0939_MW4003_220203, 0939_MW4219_220203, 0939_MW4072_220203, 0939_MW4052_220203, 0939_MW4037_220203, 0939_QC111_220203, 0939_MW4041_220203, 0939_MW4220_220203, 0939_QC311_220203, 0939_QC312_220203, 0939_QC511_220203, 0939_QC512_220203	**03-Feb-2022**	**11-Feb-2022**	02-Aug-2022	✓	**11-Feb-2022**	02-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4221_220204, 0939_MW4222_220204 - Extra vol for lab qc, 0939_MW4075_220204, 0939_MW4069_220204, 0939_MW4048_220204, 0939_MW4001_220204, 0939_MW4013_220204, 0939_MW4223_220204, 0939_MW2116_220204, 0939_QC514_220204, 0939_QC314_220204, 0939_QC405_220204	**04-Feb-2022**	**11-Feb-2022**	03-Aug-2022	✓	**11-Feb-2022**	03-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
0939_MW4059_220202, 0939_MW4027_220202, 0939_MW4058_22020, 0939_MW4064_220202, 0939_MW4055_220202, 0939_QC308_220202, 0939_QC309_220202, 0939_QC310_220202, 0939_QC508_220202, 0939_QC509_220202, 0939_QC510_220202, 0939_QC403_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4079_220203, 0939_MW4073_220203, 0939_MW4066_220203, 0939_QC110_220203, 0939_MW4057_220203, 0939_MW4015_220203, 0939_MW4035_220203, 0939_MW4003_220203, 0939_MW4219_220203, 0939_MW4072_220203, 0939_MW4052_220203, 0939_MW4037_220203, 0939_QC111_220203, 0939_MW4041_220203, 0939_MW4220_220203, 0939_QC311_220203, 0939_QC312_220203, 0939_QC511_220203, 0939_QC512_220203	**03-Feb-2022**	**11-Feb-2022**	02-Aug-2022	✓	**11-Feb-2022**	02-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4221_220204, 0939_MW4222_220204 - Extra vol for lab qc, 0939_MW4075_220204, 0939_MW4069_220204, 0939_MW4048_220204, 0939_MW4001_220204, 0939_MW4013_220204, 0939_MW4223_220204, 0939_MW2116_220204, 0939_QC514_220204, 0939_QC314_220204, 0939_QC405_220204	**04-Feb-2022**	**11-Feb-2022**	03-Aug-2022	✓	**11-Feb-2022**	03-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW4059_220202, 0939_MW4027_220202, 0939_MW4058_22020, 0939_MW4064_220202, 0939_MW4055_220202, 0939_QC308_220202, 0939_QC309_220202, 0939_QC310_220202, 0939_QC508_220202, 0939_QC509_220202, 0939_QC510_220202, 0939_QC403_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4079_220203, 0939_MW4073_220203, 0939_MW4066_220203, 0939_QC110_220203, 0939_MW4057_220203, 0939_MW4015_220203, 0939_MW4035_220203, 0939_MW4003_220203, 0939_MW4219_220203, 0939_MW4072_220203, 0939_MW4052_220203, 0939_MW4037_220203, 0939_QC111_220203, 0939_MW4041_220203, 0939_MW4220_220203, 0939_QC311_220203, 0939_QC312_220203, 0939_QC511_220203, 0939_QC512_220203	**03-Feb-2022**	**11-Feb-2022**	02-Aug-2022	✓	**11-Feb-2022**	02-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4221_220204, 0939_MW4222_220204 - Extra vol for lab qc, 0939_MW4075_220204, 0939_MW4069_220204, 0939_MW4048_220204, 0939_MW4001_220204, 0939_MW4013_220204, 0939_MW4223_220204, 0939_MW2116_220204, 0939_QC514_220204, 0939_QC314_220204, 0939_QC405_220204	**04-Feb-2022**	**11-Feb-2022**	03-Aug-2022	✓	**11-Feb-2022**	03-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
0939_MW4059_220202, 0939_MW4027_220202, 0939_MW4058_22020, 0939_MW4064_220202, 0939_MW4055_220202, 0939_QC308_220202, 0939_QC309_220202, 0939_QC310_220202, 0939_QC508_220202, 0939_QC509_220202, 0939_QC510_220202, 0939_QC403_220202	**02-Feb-2022**	**11-Feb-2022**	01-Aug-2022	✓	**11-Feb-2022**	01-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4079_220203, 0939_MW4073_220203, 0939_MW4066_220203, 0939_QC110_220203, 0939_MW4057_220203, 0939_MW4015_220203, 0939_MW4035_220203, 0939_MW4003_220203, 0939_MW4219_220203, 0939_MW4072_220203, 0939_MW4052_220203, 0939_MW4037_220203, 0939_QC111_220203, 0939_MW4041_220203, 0939_MW4220_220203, 0939_QC311_220203, 0939_QC312_220203, 0939_QC511_220203, 0939_QC512_220203	**03-Feb-2022**	**11-Feb-2022**	02-Aug-2022	✓	**11-Feb-2022**	02-Aug-2022	✓
HDPE (no PTFE) (EP231X)							
0939_MW4221_220204, 0939_MW4222_220204 - Extra vol for lab qc, 0939_MW4075_220204, 0939_MW4069_220204, 0939_MW4048_220204, 0939_MW4001_220204, 0939_MW4013_220204, 0939_MW4223_220204, 0939_MW2116_220204, 0939_QC514_220204, 0939_QC314_220204, 0939_QC405_220204	**04-Feb-2022**	**11-Feb-2022**	03-Aug-2022	✓	**11-Feb-2022**	03-Aug-2022	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	46	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	46	**6.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	46	**6.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	46	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2202066**	Page	: 1 of 21
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	: [redacted]	Address	: [redacted]
Telephone	: ----	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 09-Feb-2022 11:16
Order number	: 60612561 6.1	Date Analysis Commenced	: 11-Feb-2022
C-O-C number	: ----	Issue Date	: 14-Feb-2022 17:36
Sampler	: ----		
Site	: ----		
Quote number	: SY/139/19 V3		
No. of samples received	: 48		
No. of samples analysed	: 43		

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

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

This 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 Contact for details.

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

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Sample EM2202066-158 required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4059_220202	0939_MW4027_220202	0939_MW4058_22020	0939_MW4064_220202	0939_MW4055_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-112	EM2202066-113	EM2202066-114	EM2202066-115	EM2202066-116
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4059_220202	0939_MW4027_220202	0939_MW4058_22020	0939_MW4064_220202	0939_MW4055_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-112	EM2202066-113	EM2202066-114	EM2202066-115	EM2202066-116
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**100**	**102**	**95.0**	**104**
13C8-PFOA	----	0.02	%		**104**	**102**	**102**	**102**	**97.2**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4079_220203	0939_MW4073_220203	0939_MW4066_220203	0939_QC110_220203	0939_MW4057_220203
				Sampling date / time	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
					EM2202066-124	EM2202066-125	EM2202066-126	EM2202066-127	EM2202066-129
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	**0.09**	**0.06**	**0.06**	**0.04**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.03**	**0.02**	**0.02**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.04**	**0.25**	**0.14**	**0.13**	**0.10**
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	**0.07**	**0.05**	**0.05**	**0.05**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.03**	**0.04**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	**0.04**	**0.01**	**0.01**	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4079_220203	0939_MW4073_220203	0939_MW4066_220203	0939_QC110_220203	0939_MW4057_220203
				Sampling date / time	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-124	EM2202066-125	EM2202066-126	EM2202066-127	EM2202066-129
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.08**	**0.48**	**0.31**	**0.31**	**0.21**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.04**	**0.32**	**0.19**	**0.18**	**0.15**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.08**	**0.45**	**0.29**	**0.29**	**0.21**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.6**	**95.6**	**91.0**	**97.6**	**99.2**
13C8-PFOA	----	0.02	%		**102**	**98.8**	**100**	**102**	**101**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4015_220203	0939_MW4035_220203	0939_MW4003_220203	0939_MW4219_220203	0939_MW4072_220203
				Sampling date / time	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
					EM2202066-130	EM2202066-131	EM2202066-132	EM2202066-133	EM2202066-134
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.24**	**0.61**	**0.36**	**0.03**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.32**	**0.36**	**0.34**	**0.02**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**3.72**	**3.39**	**3.54**	**0.14**	**0.02**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.21**	**0.33**	**0.32**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**5.96**	**9.58**	**8.50**	**0.22**	<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		**0.08**	**0.08**	**0.09**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.40**	**0.47**	**0.42**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.06**	**0.08**	**0.09**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.14**	**0.19**	**0.22**	**0.01**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4015_220203	0939_MW4035_220203	0939_MW4003_220203	0939_MW4219_220203	0939_MW4072_220203
				Sampling date / time	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
					EM2202066-130	EM2202066-131	EM2202066-132	EM2202066-133	EM2202066-134
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**11.1**	**15.1**	**13.9**	**0.42**	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**9.68**	**13.0**	**12.0**	**0.36**	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**10.6**	**14.4**	**13.2**	**0.40**	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**88.8**	**96.7**	**102**	**114**	**111**
13C8-PFOA	----	0.02	%		**105**	**103**	**104**	**105**	**108**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4052_220203	0939_MW4037_220203	0939_QC111_220203	0939_MW4041_220203	0939_MW4220_220203
				Sampling date / time	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
					EM2202066-135	EM2202066-136	EM2202066-137	EM2202066-139	EM2202066-140
					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		**0.02**	<0.01	**0.02**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.04**	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4052_220203	0939_MW4037_220203	0939_QC111_220203	0939_MW4041_220203	0939_MW4220_220203
				Sampling date / time	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-135	EM2202066-136	EM2202066-137	EM2202066-139	EM2202066-140
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.06**	<0.01	**0.02**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.06**	<0.01	**0.02**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.06**	<0.01	**0.02**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**97.5**	**109**	**94.8**	**109**
13C8-PFOA	----	0.02	%		**105**	**106**	**104**	**104**	**109**

Analytical Results

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

				Sample ID	0939_MW4221_220204	0939_MW4222_220204 Extra vol for lab qc	0939_MW4075_220204	0939_MW4069_220204	0939_MW4048_220204
				Sampling date / time	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-146	EM2202066-147	EM2202066-148	EM2202066-149	EM2202066-150
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.06**	**0.08**	**0.04**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.08**	**0.09**	**0.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.34**	**0.63**	**0.29**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.03**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.11**	**1.44**	**0.68**
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	**0.03**	**0.04**	**0.03**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.12**	**0.12**	**0.08**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**0.02**	**0.03**	**0.03**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.02**	**0.06**	**0.04**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4221_220204	0939_MW4222_220204 Extra vol for lab qc	0939_MW4075_220204	0939_MW4069_220204	0939_MW4048_220204
				Sampling date / time	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-146	EM2202066-147	EM2202066-148	EM2202066-149	EM2202066-150
					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	**0.78**	**2.52**	**1.23**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.45**	**2.07**	**0.97**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.70**	**2.40**	**1.19**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	**99.3**	**95.3**	**106**	**111**
13C8-PFOA	----	0.02	%		**108**	**105**	**110**	**110**	**107**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4001_220204	0939_MW4013_220204	0939_MW4223_220204	0939_MW2116_220204	0939_QC514_220204
				Sampling date / time	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-151	EM2202066-154	EM2202066-157	EM2202066-158	EM2202066-159
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	**0.30**	<0.02	**308**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.03**	**0.28**	<0.02	**356**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.24**	**2.06**	<0.01	**2730**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.11**	<0.02	**226**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.82**	**3.89**	<0.01	**6130**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<3.77	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**0.1**	<0.1	**30.1**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.04**	**0.15**	<0.02	**132**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.06**	**0.43**	<0.02	**594**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.07**	<0.02	**80.6**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.04**	**0.13**	<0.01	**194**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	**0.98**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.38	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.38	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.38	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.38	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.94	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	**2.87**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.94	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.94	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4001_220204	0939_MW4013_220204	0939_MW4223_220204	0939_MW2116_220204	0939_QC514_220204
				Sampling date / time	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-151	EM2202066-154	EM2202066-157	EM2202066-158	EM2202066-159
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.94	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.94	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.38	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.38	<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	<0.38	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	**1.03**	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.38	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.38	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.26**	**7.52**	<0.01	**10800**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.06**	**5.95**	<0.01	**8860**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.23**	**7.13**	<0.01	**10200**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**97.9**	**112**	**112**	**75.0**	**96.0**
13C8-PFOA	----	0.02	%		**104**	**105**	**107**	**88.0**	**102**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC308_220202	0939_QC309_220202	0939_QC310_220202	0939_QC508_220202	0939_QC509_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
					EM2202066-117	EM2202066-118	EM2202066-119	EM2202066-120	EM2202066-121
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC308_220202	0939_QC309_220202	0939_QC310_220202	0939_QC508_220202	0939_QC509_220202
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00	02-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-117	EM2202066-118	EM2202066-119	EM2202066-120	EM2202066-121
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**108**	**91.8**	**103**	**97.8**
13C8-PFOA	----	0.02	%		**104**	**104**	**101**	**103**	**102**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC510_220202	0939_QC403_220202	0939_QC311_220203	0939_QC312_220203	0939_QC511_220203
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
					EM2202066-122	EM2202066-123	EM2202066-141	EM2202066-142	EM2202066-143
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC510_220202	0939_QC403_220202	0939_QC311_220203	0939_QC312_220203	0939_QC511_220203
				Sampling date / time	02-Feb-2022 00:00	02-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00	03-Feb-2022 00:00
Compound	CAS Number	LOR	Unit		EM2202066-122	EM2202066-123	EM2202066-141	EM2202066-142	EM2202066-143
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.1**	**95.8**	**111**	**97.7**	**101**
13C8-PFOA	----	0.02	%		**97.2**	**87.1**	**106**	**104**	**103**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC512_220203	0939_QC314_220204	0939_QC405_220204	----	----
				Sampling date / time	03-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2202066-144	EM2202066-160	EM2202066-161	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0939_QC512_220203	0939_QC314_220204	0939_QC405_220204	----	----
				Sampling date / time	03-Feb-2022 00:00	04-Feb-2022 00:00	04-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2202066-144	EM2202066-160	EM2202066-161	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**102**	**107**	----	----
13C8-PFOA	----	0.02	%		**107**	**101**	**108**	----	----

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: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

REPORT OF ANALYSIS

Client	: [redacted]	**Job No.**	: AECO03/220216
	[redacted]	**Quote No.**	: QT-02018
	[redacted]	**Order No.**	: 60612561_6_1
		Date Received	: 16-FEB-2022
Attention	: J[redacted]	**Sampled By**	: CLIENT
Project Name	: 60612561_6_1		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/002886	0939_QC201_220131	WATER 31/01/2022 12:53 PM
N22/002887	0939_QC202_220131	WATER 31/01/2022 03:04 PM
N22/002888	0939_QC203_220201	WATER 01/02/2022 09:42 AM
N22/002889	0939_QC204_220201	WATER 01/02/2022 11:24 AM

Lab Reg No.		N22/002886	N22/002887	N22/002888	N22/002889	
Date Sampled		31-JAN-2022	31-JAN-2022	01-FEB-2022	01-FEB-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.44	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.84	<0.02	0.028	<0.02	NR70
PFHxA (307-24-4)	ug/L	7.1	<0.01	0.15	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.58	<0.01	0.016	<0.01	NR70
PFOA (335-67-1)	ug/L	7.3	<0.01	0.026	<0.01	NR70
PFNA (375-95-1)	ug/L	0.031	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	1.6	0.015	0.093	<0.01	NR70
PFHxS (355-46-4)	ug/L	63	0.15	0.74	<0.01	NR70
PFHpS (375-92-8)	ug/L	6.3	<0.01	0.034	<0.01	NR70
PFOS (1763-23-1)	ug/L	50	<0.02	0.36	<0.02	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.59	<0.01	0.080	<0.01	NR70
PFOSA (754-91-6)	ug/L	0.026	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/002886	N22/002887	N22/002888	N22/002889	
Date Sampled		31-JAN-2022	31-JAN-2022	01-FEB-2022	01-FEB-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	115	117	110	109	NR70
PFPeA (Surrogate Recovery)	%	129	123	117	111	NR70
PFHxA (Surrogate Recovery)	%	91	119	108	103	NR70
PFHpA (Surrogate Recovery)	%	135	121	110	99	NR70
PFOA (Surrogate Recovery)	%	107	125	126	95	NR70
PFNA (Surrogate Recovery)	%	36	78	152	111	NR70
PFDA (Surrogate Recovery)	%	48	97	146	132	NR70
PFUdA (Surrogate Recovery)	%	89	70	142	99	NR70
PFDoA (Surrogate Recovery)	%	81	105	197	72	NR70
PFTeDA (Surrogate Recovery)	%	94	189	71	80	NR70
PFHxDA (Surrogate Recovery)	%	141	122	163	195	NR70
FOUEA (Surrogate Recovery)	%	121	109	99	90	NR70
PFBS (Surrogate Recovery)	%	127	104	107	96	NR70
PFHxS (Surrogate Recovery)	%	72	117	106	100	NR70
PFOS (Surrogate Recovery)	%	185	124	118	111	NR70
PFOSA (Surrogate Recovery)	%	55	70	122	93	NR70
N-MeFOSA (Surrogate Recovery)	%	115	95	94	82	NR70
N-EtFOSA (Surrogate Recovery)	%	105	93	82	74	NR70
N-MeFOSAA (Surrogate Recovery)	%	55	67	132	94	NR70
N-EtFOSAA (Surrogate Recovery)	%	55	77	126	90	NR70
N-MeFOSE (Surrogate Recovery)	%	168	84	50	91	NR70
N-EtFOSE (Surrogate Recovery)	%	104	127	93	59	NR70
4:2 FTS (Surrogate Recovery)	%	179	105	88	96	NR70
6:2 FTS (Surrogate Recovery)	%	98	104	102	95	NR70
8:2 FTS (Surrogate Recovery)	%	64	83	135	109	NR70
8:2 diPAP (Surrogate Recovery)	%	77	87	148	109	NR70
Dates						
Date extracted		17-FEB-2022	17-FEB-2022	17-FEB-2022	17-FEB-2022	
Date analysed		21-FEB-2022	21-FEB-2022	21-FEB-2022	21-FEB-2022	

N22/002886
to
N22/002898

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

[redacted]

23-FEB-2022

REPORT OF ANALYSIS

Client	: [redacted]	**Job No.**	: AECO03/220216
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 16-FEB-2022
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: 60612561_6_1		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/002892	0939_QC206_220201	WATER 01/02/2022 03:35 PM
N22/002895	0939_QC208_220202	WATER 02/02/2022 11:38 AM
N22/002896	0939_QC209_220202	WATER 02/02/2022 03:07 PM
N22/002897	0939_QC210_220203	WATER 03/02/2022 09:49 AM

Lab Reg No.	Units	N22/002892	N22/002895	N22/002896	N22/002897	Method
Date Sampled		01-FEB-2022	02-FEB-2022	02-FEB-2022	03-FEB-2022	
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	7.5	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	8.2	<0.02	0.020	<0.02	NR70
PFHxA (307-24-4)	ug/L	35	<0.01	0.14	0.028	NR70
PFHpA (375-85-9)	ug/L	6.0	<0.01	0.012	<0.01	NR70
PFOA (335-67-1)	ug/L	10	<0.01	0.027	<0.01	NR70
PFNA (375-95-1)	ug/L	0.39	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	0.11	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	0.058	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	6.9	<0.01	0.076	0.023	NR70
PFHxS (355-46-4)	ug/L	53	<0.01	0.93	0.17	NR70
PFHpS (375-92-8)	ug/L	3.9	<0.01	0.050	<0.01	NR70
PFOS (1763-23-1)	ug/L	220	0.044	0.55	0.063	NR70
PFNS (68259-12-1)	ug/L	0.64	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	7.3	<0.01	0.044	0.048	NR70
PFOSA (754-91-6)	ug/L	0.15	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/002892	N22/002895	N22/002896	N22/002897	
Date Sampled		01-FEB-2022	02-FEB-2022	02-FEB-2022	03-FEB-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.53	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	0.19	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	108	99	117	123	NR70
PFPeA (Surrogate Recovery)	%	117	99	126	131	NR70
PFHxA (Surrogate Recovery)	%	63	97	111	109	NR70
PFHpA (Surrogate Recovery)	%	107	98	98	101	NR70
PFOA (Surrogate Recovery)	%	99	92	104	118	NR70
PFNA (Surrogate Recovery)	%	25	122	66	97	NR70
PFDA (Surrogate Recovery)	%	115	98	63	122	NR70
PFUdA (Surrogate Recovery)	%	135	123	58	78	NR70
PFDoA (Surrogate Recovery)	%	106	111	108	134	NR70
PFTeDA (Surrogate Recovery)	%	141	62	82	63	NR70
PFHxDA (Surrogate Recovery)	%	164	47	63	149	NR70
FOUEA (Surrogate Recovery)	%	111	85	106	126	NR70
PFBS (Surrogate Recovery)	%	94	88	106	103	NR70
PFHxS (Surrogate Recovery)	%	73	87	101	104	NR70
PFOS (Surrogate Recovery)	%	144	90	121	125	NR70
PFOSA (Surrogate Recovery)	%	81	99	72	79	NR70
N-MeFOSA (Surrogate Recovery)	%	117	74	85	88	NR70
N-EtFOSA (Surrogate Recovery)	%	108	69	75	80	NR70
N-MeFOSAA (Surrogate Recovery)	%	89	98	75	91	NR70
N-EtFOSAA (Surrogate Recovery)	%	85	107	73	83	NR70
N-MeFOSE (Surrogate Recovery)	%	134	49	63	85	NR70
N-EtFOSE (Surrogate Recovery)	%	133	32	113	54	NR70
4:2 FTS (Surrogate Recovery)	%	113	79	96	123	NR70
6:2 FTS (Surrogate Recovery)	%	95	77	94	127	NR70
8:2 FTS (Surrogate Recovery)	%	97	95	64	147	NR70
8:2 diPAP (Surrogate Recovery)	%	93	117	81	91	NR70
Dates						
Date extracted		17-FEB-2022	17-FEB-2022	17-FEB-2022	17-FEB-2022	
Date analysed		21-FEB-2022	21-FEB-2022	21-FEB-2022	21-FEB-2022	

REPORT OF ANALYSIS

Lab Reg No.		N22/002892	N22/002895	N22/002896	N22/002897	
Date Sampled		01-FEB-2022	02-FEB-2022	02-FEB-2022	03-FEB-2022	
	Units					Method

[redacted]

23-FEB-2022

REPORT OF ANALYSIS

Report No. RN1343320

Client	: [redacted]	**Job No.**	: AECO03/220216
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 16-FEB-2022
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: 60612561_6_1		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/002898	0939_QC211_220203	WATER 03/02/2022 03:42 PM

Lab Reg No.		N22/002898				
Date Sampled		03-FEB-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05				NR70
PFPeA (2706-90-3)	ug/L	<0.02				NR70
PFHxA (307-24-4)	ug/L	<0.01				NR70
PFHpA (375-85-9)	ug/L	<0.01				NR70
PFOA (335-67-1)	ug/L	<0.01				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	<0.01				NR70
PFHxS (355-46-4)	ug/L	0.010				NR70
PFHpS (375-92-8)	ug/L	<0.01				NR70
PFOS (1763-23-1)	ug/L	<0.02				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	<0.01				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	<0.01				NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/002898				
Date Sampled		03-FEB-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	109				NR70
PFPeA (Surrogate Recovery)	%	115				NR70
PFHxA (Surrogate Recovery)	%	101				NR70
PFHpA (Surrogate Recovery)	%	100				NR70
PFOA (Surrogate Recovery)	%	99				NR70
PFNA (Surrogate Recovery)	%	106				NR70
PFDA (Surrogate Recovery)	%	106				NR70
PFUdA (Surrogate Recovery)	%	104				NR70
PFDoA (Surrogate Recovery)	%	83				NR70
PFTeDA (Surrogate Recovery)	%	100				NR70
PFHxDA (Surrogate Recovery)	%	100				NR70
FOUEA (Surrogate Recovery)	%	101				NR70
PFBS (Surrogate Recovery)	%	97				NR70
PFHxS (Surrogate Recovery)	%	102				NR70
PFOS (Surrogate Recovery)	%	114				NR70
PFOSA (Surrogate Recovery)	%	104				NR70
N-MeFOSA (Surrogate Recovery)	%	83				NR70
N-EtFOSA (Surrogate Recovery)	%	77				NR70
N-MeFOSAA (Surrogate Recovery)	%	109				NR70
N-EtFOSAA (Surrogate Recovery)	%	97				NR70
N-MeFOSE (Surrogate Recovery)	%	83				NR70
N-EtFOSE (Surrogate Recovery)	%	77				NR70
4:2 FTS (Surrogate Recovery)	%	91				NR70
6:2 FTS (Surrogate Recovery)	%	87				NR70
8:2 FTS (Surrogate Recovery)	%	117				NR70
8:2 diPAP (Surrogate Recovery)	%	121				NR70
Dates						
Date extracted		17-FEB-2022				
Date analysed		21-FEB-2022				

[redacted]

23-FEB-2022

REPORT OF ANALYSIS

This Report supersedes reports: *RN1343298*

Measurement Uncertainty is available upon request.
Chemical Accreditation 198: 1[redacted]

REPORT OF ANALYSIS

Report No. RN1344224

Client	: [redacted]	**Job No.**	: AECO03/220216/1
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 16-FEB-2022
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: 60612561_6_1		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/002893	0939_QC207_220201	WATER 01/02/2022 04:33 PM

Lab Reg No.		N22/002893				
Date Sampled		01-FEB-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	12				NR70
PFPeA (2706-90-3)	ug/L	6.9				NR70
PFHxA (307-24-4)	ug/L	11				NR70
PFHpA (375-85-9)	ug/L	0.75				NR70
PFOA (335-67-1)	ug/L	1.4				NR70
PFNA (375-95-1)	ug/L	0.19				NR70
PFDA (335-76-2)	ug/L	0.14				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	0.019				NR70
PFPeS (2706-91-4)	ug/L	1.6				NR70
PFHxS (355-46-4)	ug/L	14				NR70
PFHpS (375-92-8)	ug/L	0.71				NR70
PFOS (1763-23-1)	ug/L	45				NR70
PFNS (68259-12-1)	ug/L	0.14				NR70
PFBS (375-73-5)	ug/L	3.3				NR70
PFOSA (754-91-6)	ug/L	0.100				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	0.15				NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/002893				
Date Sampled		01-FEB-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	0.084				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	118				NR70
PFPeA (Surrogate Recovery)	%	150				NR70
PFHxA (Surrogate Recovery)	%	85				NR70
PFHpA (Surrogate Recovery)	%	117				NR70
PFOA (Surrogate Recovery)	%	109				NR70
PFNA (Surrogate Recovery)	%	63				NR70
PFDA (Surrogate Recovery)	%	104				NR70
PFUdA (Surrogate Recovery)	%	102				NR70
PFDoA (Surrogate Recovery)	%	82				NR70
PFTeDA (Surrogate Recovery)	%	117				NR70
PFHxDA (Surrogate Recovery)	%	164				NR70
FOUEA (Surrogate Recovery)	%	117				NR70
PFBS (Surrogate Recovery)	%	100				NR70
PFHxS (Surrogate Recovery)	%	88				NR70
PFOS (Surrogate Recovery)	%	119				NR70
PFOSA (Surrogate Recovery)	%	74				NR70
N-MeFOSA (Surrogate Recovery)	%	104				NR70
N-EtFOSA (Surrogate Recovery)	%	97				NR70
N-MeFOSAA (Surrogate Recovery)	%	81				NR70
N-EtFOSAA (Surrogate Recovery)	%	87				NR70
N-MeFOSE (Surrogate Recovery)	%	75				NR70
N-EtFOSE (Surrogate Recovery)	%	128				NR70
4:2 FTS (Surrogate Recovery)	%	132				NR70
6:2 FTS (Surrogate Recovery)	%	110				NR70
8:2 FTS (Surrogate Recovery)	%	90				NR70
8:2 diPAP (Surrogate Recovery)	%	105				NR70
Dates						
Date extracted		17-FEB-2022				
Date analysed		21-FEB-2022				

N22/002893
PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô

REPORT OF ANALYSIS

High PFAS surrogate recoveries accepted - results corrected for recovery.

[redacted]

02-MAR-2022

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1344183*

Measurement Uncertainty is available upon request.
Chemical Accreditation 198: [redacted]

REPORT OF ANALYSIS

Report No. RN1344225

Client	: [redacted]	**Job No.**	: AECO04/220223
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 23-FEB-2022
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/003370	0939_QC212_220204	WATER EDINBURGH 04/02/2022
N22/003371	0939_QC213_220204	WATER 04/02/2022

Lab Reg No.		N22/003370	N22/003371			
Date Sampled		04-FEB-2022	04-FEB-2022			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.062	0.15			NR70
PFPeA (2706-90-3)	ug/L	0.029	0.14			NR70
PFHxA (307-24-4)	ug/L	0.064	0.43			NR70
PFHpA (375-85-9)	ug/L	0.019	0.063			NR70
PFOA (335-67-1)	ug/L	0.029	0.13			NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01			NR70
PFPeS (2706-91-4)	ug/L	0.027	0.27			NR70
PFHxS (355-46-4)	ug/L	0.28	2.3			NR70
PFHpS (375-92-8)	ug/L	0.012	0.091			NR70
PFOS (1763-23-1)	ug/L	0.83	3.8			NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01			NR70
PFBS (375-73-5)	ug/L	0.023	0.31			NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01			NR70

REPORT OF ANALYSIS

Report No. RN1344225

Lab Reg No.		N22/003370	N22/003371			
Date Sampled		04-FEB-2022	04-FEB-2022			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01			NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01			NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)	%	113	109			NR70
PFPeA (Surrogate Recovery)	%	128	119			NR70
PFHxA (Surrogate Recovery)	%	112	96			NR70
PFHpA (Surrogate Recovery)	%	113	98			NR70
PFOA (Surrogate Recovery)	%	123	92			NR70
PFNA (Surrogate Recovery)	%	62	120			NR70
PFDA (Surrogate Recovery)	%	76	63			NR70
PFUdA (Surrogate Recovery)	%	101	120			NR70
PFDoA (Surrogate Recovery)	%	69	68			NR70
PFTeDA (Surrogate Recovery)	%	68	86			NR70
PFHxDA (Surrogate Recovery)	%	53	44			NR70
FOUEA (Surrogate Recovery)	%	80	63			NR70
PFBS (Surrogate Recovery)	%	105	90			NR70
PFHxS (Surrogate Recovery)	%	107	88			NR70
PFOS (Surrogate Recovery)	%	117	99			NR70
PFOSA (Surrogate Recovery)	%	77	89			NR70
N-MeFOSA (Surrogate Recovery)	%	89	61			NR70
N-EtFOSA (Surrogate Recovery)	%	84	60			NR70
N-MeFOSAA (Surrogate Recovery)	%	74	86			NR70
N-EtFOSAA (Surrogate Recovery)	%	68	82			NR70
N-MeFOSE (Surrogate Recovery)	%	75	81			NR70
N-EtFOSE (Surrogate Recovery)	%	79	86			NR70
4:2 FTS (Surrogate Recovery)	%	118	113			NR70
6:2 FTS (Surrogate Recovery)	%	109	101			NR70
8:2 FTS (Surrogate Recovery)	%	82	110			NR70
8:2 diPAP (Surrogate Recovery)	%	116	141			NR70
Dates						
Date extracted		24-FEB-2022	24-FEB-2022			
Date analysed		25-FEB-2022	25-FEB-2022			

N22/003370
to
N22/003371

PFOS and PFHxS are quantified using a combined branched and linear standard,

linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

[redacted]

02-MAR-2022

NATA
TECHNICAL COMPETENCE

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1344195*

Measurement Uncertainty is available upon request.
Chemical Accreditation 198: [redacted]

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO03/220216 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
				N22/002898				
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	100	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	<0.02	<0.02	-	89	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	<0.01	<0.01	-	84	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	92	NA
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	88	NA
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	66	NA
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	100	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	145	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	108	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	89	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	80	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	51	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	138	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	91	NA
PFBS (375-73-5)	NR70	0.01	<0.01	<0.01	<0.01	-	88	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	102	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	0.010	0.013	26	84	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	90	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	<0.02	<0.02	-	83	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	81	NA
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	75	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	87	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	92	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	95	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	84	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	89	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	109	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	68	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	88	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	90	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	81	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	88	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	87	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Date: **23/02/2022**

Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer: AECOM AUSTRALIA PTY LTD

Address: LEVEL 21
SYDNEY NSW 2000

Email: [redacted]

Telephone:

Fax:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: [redacted]

Address: 105 Delhi Road, North Ryde, NSW
NSW 2113

Email: [redacted]

Telephone: [redacted]

Fax:

SAMPLE DETAILS

NMI Job Name: AECO03/220216/1

Total No. of Samples: 1

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N22/002893	7-MAR-2022	0939_QC207_220201	WATER 01/02/2022 04:33 PM

SAMPLE RECEIVED CONDITION

Date samples received:	16-FEB-2022
Sample received in good order:	Yes
NMI Quotation no. provided:	
Client purchase order number:	60612561_6_1
Temperature of samples:	Chilled
Comments:	All Ok
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO04/220223 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	106	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	97	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	111	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	61	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	51	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	53	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	91	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	136	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	69	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	85	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	102	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	101	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	101	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	97	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	97	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	100	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	116	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	108	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	102	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	98	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	96	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	96	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	101	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	112	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	93	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	109	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Date: **28/02/2022**

Appendix F

Calibration Certificates

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS QMP	**Project Number:**	60612561
Project Location:	EDN	**Client:**	DoD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	Kennards
Make and Model:	SmarTroll
Serial Number:	900 3871

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	1/2/22				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	~~mV~~ ~~ppm~~	~~ppm~~ %
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.00	7.06	12333	245.5	91.3
Calibration Temperature:	23.1	23.0	23.1	23.2	23.4

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted]
Fieldwork Staff Signature

1/2/22
Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS AMP	**Project Number:**	60612561
Project Location:	EDN	**Client:**	DoD
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	Kennards
Make and Model:	SmarTroll
Serial Number:	9003871

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	2/2/22				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	~~mV~~ ~~ppm~~	~~ppm~~ %
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.74	7.40	10804	215.0	92.6
Calibration Temperature:	25.3	25.4	25.4	25.5	25.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted] — Fieldwork Staff Signature

2/2/22 — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS amp	**Project Number:**	60612561
Project Location:	Edinburgh	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	Kennards
Make and Model:	SmarTroll
Serial Number:	9003871

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	3/2/22				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	~~ppm~~ mV	~~ppm~~ %
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.23	7.31	11749	222.1	90.9
Calibration Temperature:	24.4	25.4	24.6	24.6	24.3

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted] — Fieldwork Staff Signature

3/2/22 — Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS amp	**Project Number:**	60612561
Project Location:	Edinburgh	**Client:**	Defence
PM Name:	[redacted]	**Fieldwork Staff Name:**	[redacted]

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

INSTRUMENT DETAILS

Supplier:	Kennards
Make and Model:	Smartroll
Serial Number:	9003871

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	4/12/22				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ~~ppm~~	~~ppm~~ %
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	4.61	7.43	10972	217.4	91.6
Calibration Temperature:	21.1	21.1	21.2	21.2	21.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted]
Fieldwork Staff Signature

4/12/22
Date

Distribution: Project Central File

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235263 **Serial Number:** 268006

Probe Length: 60m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 8,5V	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By: [redacted] Date: 28/1/22 Signed: [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (SMART TROLL)

Plant Number: 235631 Serial Number: 9003871

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330773 34702	☑
Conductivity	12.88 mS/cm	12.88 mS/cm	—	343265	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation 100 in Air	5656	☑
ORP	240mV @ 25°C	240mV	—	5931	☑

Battery Status 100 %	Temperature 25.9 °C
Electrical Test & Tag (AS/NZS 3760)	Electrodes Cleaned and Checked

Note: Calibration solution traceability information is available upon request.

Checked By [redacted] Date: 28/1/22 Signed: [redacted]

Accessories

User's Manual	pH Sensor	Conductivity Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
iPod Charger	Stainless Steel Restrictor	IPod & Transit Case
Calibration Cup	Bluetooth Battery Pack	Calibration Test Tube
External Battery Pack for iPod	Cable	

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235244 **Serial Number:** 9003846

Probe Length: 60m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 8.4V	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By [redacted] Date: 28/1/22 Signed [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235205 **Serial Number:** 9003842

Probe Length: 100m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 8.8V	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By: [redacted] Date: 28/1/22 Signed: [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (SMART TROLL)

Plant Number: 235637 Serial Number: 341733

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330737 347027	☑
Conductivity	12.88 mS/cm	12.88 mS/cm	—	343265	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air 100	5656	☑
ORP	240mV @ 25°C	240mV	—	5931	☑

Battery Status 100 %	Temperature 26.6 °C
Electrical Test & Tag (AS/NZS 3760)	Electrodes Cleaned and Checked

Note: Calibration solution traceability information is available upon request.

Checked By [redacted] Date: 28/1/22 Signed: [redacted]

Accessories List:

User's Manual	pH Sensor	Conductivity Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
iPod Charger	Stainless Steel Restrictor	IPod & Transit Case
Calibration Cup	Bluetooth Battery Pack	Calibration Test Tube
External Battery Pack for iPod	Cable	

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

AECOM

Sampling Event Factual Report, July 2022

PFAS OMP - RAAF Base Edinburgh

12-Apr-2023
PFAS Ongoing Monitoring Plan

aecom.com

Delivering a better world

Sampling Event Factual Report, July 2022

PFAS OMP - RAAF Base Edinburgh

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

ABN: 68706814312

Prepared by

AECOM Australia Pty Ltd
Larrakia Country, Level 3, 9 Cavenagh Street, Darwin NT 0800, GPO Box 3175, Darwin NT 0801, Australia
T +61 8 8942 6200 F +61 8 8942 6299 www.aecom.com
ABN 20 093 846 925

12-Apr-2023

Job No.: 60612561

Quality Information

Document Sampling Event Factual Report, July 2022

Ref 60612561_0939_EDN_RP_20230412_Rev0.docx

Date 12-Apr-2023

Prepared by [redacted]

Reviewed by [redacted]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	12-Apr-2023	Final	[redacted] Principal Environmental Scientist	[redacted]

Table of Contents

Abbreviations 1
1.0 Introduction 1
1.1 General 1
1.2 Objectives 1
2.0 Scope of Work 2
2.1 Deviations from the SAQP 5
3.0 Methodology 7
3.1 Adopted Screening Criteria 8
3.2 Data Quality Objectives and Data Validation 9
4.0 Field Observations and Results 10
4.1 General Field Observations 10
4.2 Groundwater 11
4.2.1 Field Observations and Field Measurements 11
4.2.2 PFAS Groundwater Analytical Results 12
4.3 Surface Water 14
4.3.1 Field Observations and Field Measurements 14
4.3.2 PFAS Surface Water Analytical Results 14
5.0 Summary and Next Sampling Events 16
5.1 Summary of Monitoring Event 16
5.2 Upcoming Sampling Events 17
5.3 Upcoming Annual Interpretive Report 17
6.0 References 18

Appendix A
Figures A

Appendix B
Tables B

Appendix C
Data Validation Reports C

Appendix D
Chain of Custody D

Appendix E
Laboratory Certificates E

Appendix F
Calibration Certificates F

List of Tables

Table 1 Groundwater Sampling Locations 3
Table 2 Groundwater Gauging Locations 4
Table 3 Surface Water Sampling Locations 5
Table 4 Deviations from the SAQP during sampling event for July 2022 5
Table 5 Sampling Methodology 7
Table 6 Summary of Adopted Screening Criteria 8
Table 7 General Field Observations 10
Table 8 Groundwater observations and field measurements 11
Table 9 Deviations from historical dataset 13
Table 10 Surface Water Observations and Field Measurements 14
Table 11 Summary of Sampling Event 16

Abbreviations

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

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the *PFAS Management Area Plan (PMAP)* (Department of Defence, 2019) at RAAF Base Edinburgh (the 'Base') in South Australia. The locations of the Base and Management Area are shown in **Figure 1.1**, **Appendix A** and PFAS source areas as outlined in the PMAP (Department of Defence, 2019)are shown in **Figure 1.2, Appendix A**. A groundwater prohibition area was gazetted by the South Australian Environment Protection Authority (SA EPA) on 3 February 2022 and is largely coincident with the Management Area, as shown on **Figure 1.3**, **Appendix A**.

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

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

1.2 Objectives

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

The purpose of this PFAS OMP factual report is to summarise the scope of works and findings for the winter groundwater and surface water sampling event conducted in July 2022, specifically highlighting first-time detections and/or new exceedances of adopted human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonic acid (PFHxS) and for perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance,* v0.2, May 2021 (Department of Defence, 2021).

An annual interpretive report will be subsequently developed for the purpose of assessing the data collected during the discrete monitoring events completed between January 2022 and July 2022 2022 and will include assessment of environmental variability and any statistically significant trends in PFAS concentrations.

2.0 Scope of Work

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

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

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

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

- Obtaining access to two City of Salisbury operational bores, one Department for Environment and Water (DEW) monitoring bore and one private bore.
- Collection of groundwater samples (including gauging of groundwater levels), in July 2022 from 105 planned existing monitoring wells, 102 using Hydrasleeves™, and three using permanently fitted headworks and taps (refer to **Table 1** below, and **Figure 2**, **Appendix A** for specific locations).
- Eighteen wells were gauged only to supplement the well network targeted for sampling to inform groundwater flow directions (refer **Table 2** below).
- Collection of 20 surface water samples from 21 planned locations in July 2022 (refer to **Table 3** below and **Figure 2** in **Appendix A** for specific locations) coinciding with a significant rainfall event (forecast for >10 mm of rain). One location was dry and a surface water sample was thus unable to be collected from this location during this sampling event.
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples and rinsates, and field blanks (not analysed).
- Analysis of all samples for a suite of 28 PFAS analytes at the standard limit of reporting (LOR).
- Data management of the PFAS OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

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

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

^ Targeted wells are applicable to multiple investigation locations
# Location not accessed. See Table 4 for details.

* Wells MW4011 and MW4063 believed destroyed and replaced with wells MW4218 and MW4219, respectively.

Table 2 Groundwater Gauging Locations

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

Table 3 Surface Water Sampling Locations

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

[#]Location not accessed. See Table 4 for details.

2.1 Deviations from the SAQP

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

Table 4 Deviations from the SAQP during sampling event for July 2022

SAQP	July 2022 Sampling Event	Impact on OMP
Sampling of 21 surface water locations.	Of the 21 proposed surface water locations, one surface water location (SW037) was not sampled during and post the July sampling event due to insufficient water for sampling.	This location has historically been recorded as dry since August 2020. The absence of data from these surface water locations does limit the assessment of surface water pathways for PFAS migrating from the Base and creates a data gap in the assessment of PFAS in surface water.
Quality Assurance/ Quality Control (QA/QC) samples	One trip blank per cooler was not analysed as per the SAQP. Field blanks were collected but not analysed. It is noted that field blanks were not included in the SAQP utilised during the sampling event, however field blanks are required in the PFAS NEMP 2.0.	The quality of the analytical data has still been assessed as acceptable, as the available rinsate blank samples, and numerous groundwater and surface water samples collected over the monitoring event with results below the LOR can be used to assess that the potential for cross contamination has not occurred.

SAQP	July 2022 Sampling Event	Impact on OMP
Hydrasleeve deployment depths	As per the SAQP, hydrasleeves are to be deployed at depths within the screened interval of the wells, with the weight sitting one metre above the bottom of the well. For the following wells the deployment depth was less that one metre: • MW2499 (0.86 m) • MW4068 (0.78 m)	Samples were collected within the screened interval therefore no material impact on the results are anticipated.

3.0 Methodology

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

Table 5 Sampling Methodology

Item	July 2022 Sampling Events
Groundwater gauging	The depth to groundwater was measured in each monitoring well immediately prior to collection of groundwater samples using an interface probe.
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all groundwater and surface water samples. **Groundwater** Groundwater field parameters for 102 of the 105 wells were obtained after sampling by retrieving groundwater via Hydrasleeve™ samplers for measurement with a water quality meter. Groundwater field parameters for the remaining three wells were obtained after sampling by filling a decontaminated container with groundwater from supplied taps for measurement with a water quality meter. **Surface water** Surface water field parameters were obtained in-situ for measurement with a water quality meter. Field parameters and observations were collected electronically using AECOM's environmental data collection and analysis (EDCA) tool. Observations collected in the field are presented in table **T1** (groundwater) and **T3** (surface water) in **Appendix B**. Water quality meter calibration certificates are presented in **Appendix F**.
Sample collection	**Groundwater** Groundwater samples were collected from accessible monitoring wells using no-purge methodology via HydraSleeves™, with the exception of wells MW4221, MW4222 and MW4223, which are permanently fitted with headworks and were sampled via a tap. Where not already in place from the previous sampling round, HydraSleeves™ were installed within the screened interval with the weight sitting one metre above the base of the well for a minimum of 24 hours prior to the sampling round. This was based on a review of the well construction log; screened intervals for each location are shown in **Table T1, Appendix B**. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round. Groundwater samples obtained through a tap were collected by placing the laboratory sample bottle beneath the tap after the tap had run for 1-2 minutes to flush out the line/extraction pump. **Surface water** Surface water samples were collected from approximately 0.1 meters below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container was lowered into the water, using an aluminium sampling pole, with the cap immediately applied once the container was full. Field parameters were recorded in-situ, by lowering

Item	July 2022 Sampling Events
	the water quality meter into the water body from approximately 0.1 metres below the water surface.
QA/QC samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits) and rinsate samples. Refer to **Appendix C** for assessment of QA/QC sample data.
Sample analysis	• Samples were submitted to the primary and secondary laboratories for analysis for a suite of 28 PFAS analytes at the standard LOR. ALS Environmental (ALS) Sydney, New South Wales (NSW) was used as the primary laboratory. National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses were certified by the National Association of Testing Authorities. Chain of custody documents are presented in **Appendix D** and laboratory certificates are presented in **Appendix E**.

3.1 Adopted Screening Criteria

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

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

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

Table 6 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/Reference
Human Health Receptors			
Drinking water - groundwater	PFOS+ PFHxS	0.07 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020). Where the guideline value refers to the sum of PFOS+PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). *All groundwater results have been compared to these criteria.*
	PFOA	0.56 µg/L	
Recreational use	PFOS + PFHxS	2 µg/L	The values presented in the PFAS NEMP 2.0 (HEPA, 2020), 2020 are from NHMRC 2019, which published final health-based guidance values for PFAS for use in site investigations in Australia. *All surface water results have been compared to these criteria.*
	PFOA	10 µg/L	
Ecological Receptors			
	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2.0 (HEPA, 2020).

Pathway	Compound	Criteria	Comment/Reference
Freshwater (95% species protection values)	PFOA	220 µg/L	*All surface water results have been compared to these criteria.*

3.2 Data Quality Objectives and Data Validation

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

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

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

It should be noted that field blanks and trip blanks were erroneously not analysed in this sampling event. The quality of the analytical data has still been assessed as acceptable, as the available rinsate blank samples, and numerous groundwater and surface water samples collected over the monitoring event with results below the LOR can be used to assess that the potential for cross contamination has not occurred.

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

4.0 Field Observations and Results

4.1 General Field Observations

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

Table 7 General Field Observations

Item	Observation
Weather conditions	Weather was observed to be cool and cloudy, ranging from 14°C to 16°C during the groundwater and surface water sampling event in July 2022. Rainfall was observed (3.8mm on 25 Nov, 1.8mm on 26 Nov) during the week of sampling and in the weeks leading up to sampling. The observed weather conditions had no material impact on the sampling event.
Estate Management Works or Training Activities	No notable estate works, or training activities were observed in the vicinity of sampling locations with the exception of the following: • Flight training activities undertaken airside. • Soil (Ventia) and groundwater (Enviropacific) remediation activity, i.e. soil washing and immobilisation and groundwater treatment Due to the nature and location of these works within the groundwater sampling network, the works are not expected to affect data or samples collected within the sampling program or interpretations made for the Base at the time of sampling. Assessments to date of sampling locations in source area P9 indicate that PFAS concentrations in the Q2 aquifer are generally stable and increasing trends were observed in the Q1, Q3 and Q4 aquifers; however, these trends may be associated with system and/or well installation. The potential for remediation works in source area P9 (groundwater extraction for remediation and on-going soil remediation) will continue to be assessed in the Annual Interpretive Report for 2022. As the results for this sampling event are generally consistent with previous rounds, estate management activities or training activities that may have occurred prior to the sampling event do not appear to have had an impact on results for the July 2022 sampling event.

4.2 Groundwater

4.2.1 Field Observations and Field Measurements

Table 8 Groundwater observations and field measurements

Item	Observations and field measurements
Fieldwork dates	Groundwater sampling was completed between 25 and 29 July 2022.
Access and sample collection	All monitoring wells were accessible, with the exception of the following: • Bores MW4221, MW4222 and MW4223 were sampled from a tap; headworks or infrastructure present restricted access to gauge groundwater levels at these bores. A key obtained from DEW was required to access DEW bore MW4220. Council of Salisbury bores MW4221 and MW4222 required council escort for access.
Monitoring well network	The monitoring well network was generally in good condition and unchanged from the previous round with deviations noted in **Section 2.1**. Excavations approximately 0.5 to 1 m deep were observed in P9 directly adjacent wells MW2148 (Q1), MW2158 (Q2), MW2272(Q3) and MW2284 (Q4). This area was also observed by field staff in July 2022 to be flooded.
Contamination Observations	No visible or olfactory indications of contamination were observed during sampling.
Depth to groundwater and flow direction	Standing water levels for each aquifer ranged between: • Q1: 4.931 (MW4064) and 14.775 (MW2120) meters Australian Height Datum (mAHD). • Q2: 5.742 (MW4045) and 13.612 (MW2216) mAHD. • Q3: 5.863 (MW4070) and 12.251 (MW2270) mAHD. • Q4: 4.017 (MW4078) and 10.266 (MW2284) mAHD. • T1: MW4220 was the only monitoring well available for gauging attributed to this aquifer, however, there is no top of casing (TOC) data available to calculate a corrected groundwater elevation. As per the SAQP (AECOM, 2022), wells representing the Q3 and Q4 aquifers were gauged within a 24-hour period and wells representing the Q1 and Q2 aquifers were gauged within 5 days. Groundwater gauging data is presented in **Table T1, Appendix B**. Inferred groundwater contours and groundwater flow directions at the Base are shown on **Figure 4.1**, **4.2**, **4.3** and **4.4** in **Appendix A**. Inferred groundwater contouring suggests that groundwater generally flows to the southwest across all quaternary aquifers, although with significant local variation in the Q1 aquifer associated with influence from surface water bodies. Insufficient data is available to generate groundwater contours for the T1 aquifer. These observations are generally consistent with previous collected groundwater data used for interpretation of groundwater flow direction.

Item	Observations and field measurements
Geochemical parameters	Groundwater geochemical parameters were measured after to collecting groundwater samples. The readings are presented in **Table T1** in **Appendix B**, and are summarised below: • DO (mg/L): - Q1: 0.63 (MW2394) to 6.16 (MW2149) - Q2: 0.61 (MW2209) to 3.63 (MW4223) - Q3: 1.24 (MW2281) to 3.37 (MW4073) - Q4: 0.87 (MW2285) to 3.89 (MW4079) - T1: 1.2 (MW4220) to 3.59 (MW4221) • EC (µS/cm): - Q1: 664 (MW2131) to 21,877 (MW4023) - Q2: 792 (MW4048) to 23,296 (MW2173) - Q3: 2,048 (MW4074) to 11,158 (MW4073) - Q4: 1,823 (MW4075) to 12,432 (MW4078) - T1: 1,052 (MW4222) to 1,562 (MW4220) • pH: - Q1: 6.71 (MW4218) to 8.46 (MW2148) - Q2: 7.01 (MW2216) to 12.16 (MW2210) - Q3: 7.00 (MW2281) to 12.95 (MW2272) - Q4: 7.31 (MW2285) to 12.43 (MW4079) - T1: 7.66 (MW4222) to 7.76 (MW4221) • ORP (mV): - Q1: -266 (MW2394) to 99.9 (MW4058) - Q2: -286.3 (MW2209) to 101.9 (MW2185) - Q3: -209.5 (MW4071) to 146.8 (MW2281) - Q4: -202.3 (MW2285) to 101.8 (MW4078) - T1: -83.3 (MW4220) to 54.9 (MW4221)

4.2.2 PFAS Groundwater Analytical Results

The PFAS groundwater analytical results from the July 2022 sampling event are presented in **Table T2** in **Appendix B**. Of the 105 groundwater wells sampled during this event, 77 samples reported concentrations of PFAS compounds above the laboratory LOR.

PFOS+PFHxS concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at six locations and 13,600 µg/L (MW2116) and for off-base locations ranged between below the laboratory LOR (<0.01) at 21 locations and 18.9 µg/L (MW4035).

PFOA concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at 23 locations and 385 µg/L (MW2116) and for off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at 28 locations and 0.32 µg/L (MW4035).

New maximum values for PFOS+PFHxS were reported at MW2148, MW2183, MW2185, MW2202, MW2209, MW2270, MW2272, MW2284, MW2499 and MW4074.

New maximum values for PFOA were reported at MW2148, MW2158, MW2183, MW2185, MW2270 and MW2499.

One new exceedance of the PFAS NEMP drinking water guideline was reported at on-base location MW2202 (0.11 µg/L). This deviation from the historical data set is recorded in **Table 9** below and shown graphically on **Figure 5**, **Appendix A**.

It is noted that confirmation of analytical results for MW2022 and MW2499 was requested from ALS due to a higher-than-expected deviation from the results in the January 2022 groundwater sampling event. ALS confirmed these results were accurate.

Table 9 Deviations from historical dataset

Deviation Type	Location	PFOS+PFHxS concentration (ug/L)		PFOS concentration (ug/L)		PFOA concentration (ug/L)	
		July 2022	Previous maximum	July 2022	Previous maximum	July 2022	Previous maximum
New exceedance of PFAS NEMP drinking water guideline	MW2202 (on-Base, P16 source area)	0.11	0.02	0.09	0.02	<0.01	<0.01

	Yellow cells denote new exceedance of human health screening criteria.

4.3 Surface Water

4.3.1 Field Observations and Field Measurements

Table 10 Surface Water Observations and Field Measurements

Item	Description
Fieldwork Dates	Surface water sampling was completed between 25 and 28 July 2022.
Access and sample collection	SW037 had insufficient water for sampling, therefore no surface water was collected at this location, as noted in **Section 2.1**. This location has been reported to be dry in every sampling event since August 2020. All other locations were suitable for sampling.
Contamination Observations	No obvious visible signs of contamination were observed. At SW033, evidence of a recent excavation was noted by field staff, with the presence of tyre tracks in the drain and soil stockpiled on the banks.
Rainfall	The surface water sampling event between 25 and 28 July 2022 was undertaken following a rainfall event of 5.6 mm of rain (25 and 26 July 2022). A total of 22.4 mm of rain was recorded from 7 to 25 July 2022 (Edinburgh RAAF station, 023083) (Bureau of Meteorology, 2022). It was noted that surface water was abundant at the time of sampling following above average winter rainfall events.
Surface Water Flow	During the July 2022 sampling event, it was noted that surface water generally flowed to the south and southwest within the drainage network. Sample locations where water was not evidently flowing were recorded at SW019, SW021, SW032, SW033, SW050, SW058 and SW059. Sample location SW037 had insufficient water for sampling.
Geochemical Parameters	Surface water geochemical parameters were measured prior to collecting surface water samples in July 2022. The readings are presented in **Table T3** in **Appendix B**, and are summarised below: • DO ranged from 2.56 mg/L (SW006 and 14.5 mg/L (SW028), indicating moderate to well oxygenated conditions. • EC ranged from 155 µS/cm (SW019) to 1347 µS/cm (SW078), indicating freshwater conditions. • pH ranged from 7.06 (SW006) to 9.23 (SW028). pH results indicate generally neutral to slightly basic conditions. • Redox (field measured) ranged from -192 mV (SW021) to 52.7 mV (SW0006) indicating reducing to oxidising conditions.

4.3.2 PFAS Surface Water Analytical Results

The PFAS surface water analytical results from the July 2022 sampling event are presented in **Table T4** in **Appendix B**. Of the 20 surface water sample locations sampled during this event, 12 samples reported concentrations of PFAS compounds above the laboratory LOR.

PFOS+PFHxS concentrations across on-Base locations ranged between below the laboratory LOR (<0.01 µg/L) at four locations and 1.97 µg/L (SW019) and for off-base locations ranged between below the laboratory LOR (<0.01 µg/L) at five locations and 0.7 µg/L (SW011).

PFOA concentrations across on-Base locations were below the laboratory LOR with the exception of SW019 (0.07 µg/L). PFOA concentrations at off-base locations were reported below the laboratory LOR with the exception of SW011 (0.02 µg/L).

A new maximum value for PFOS+PFHxS (0.7 µg/L) and PFOA (0.02 µg/L) were reported at SW011.

5.0 Summary and Next Sampling Events

5.1 Summary of Monitoring Event

The biannual groundwater monitoring event was completed at the Base, publicly accessible land and on a private property within the Management Area between 25 and 29 July 2022. The program included:

- gauging and sampling of groundwater from 105 monitoring wells and bores.
- gauging of an additional 18 monitoring wells.
- Surface water sampling at 20 locations.

Table 12 summarises the findings of the July 2022 sampling event and recommended actions.

Table 11 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	SW037 had insufficient water for sampling. This location has been reported to be dry in every sampling event since August 2020.	Continue monitoring in accordance with the PFAS OMP.
Monitoring well network condition	The monitoring well network was generally in good condition and unchanged from the previous round. Excavations approximately 0.5 to 1 m deep were observed in P9 directly adjacent wells MW2148 (Q1), MW2158 (Q2), MW2272(Q3) and MW2284 (Q4). This area was also observed by field staff in July to be flooded.	Further assessment will be provided in the annual interpretive report for 2022.
Analytical Results	PFAS concentrations were recorded above the LOR at 77 of 105 sampled groundwater monitoring locations and at 12 of 20 sampled surface water monitoring locations.	No action required.
First-time detection of PFOA or PFOS+PFHxS in groundwater or surface water	**Groundwater** No first-time detections above the LOR were recorded for PFOA or PFOS+PFHxS. **Surface water** No first-time detections above the LOR were recorded for PFOA or PFOS+PFHxS.	Defence notified and a S83a notification was issued to the SA EPA. Continue monitoring in accordance with the PFAS OMP.
New exceedance of screening criteria.	**Groundwater** A new exceedance of PFOS+PFHxS drinking water criteria was recorded in groundwater at MW2202 (0.11 µg/L). **Surface water** No new exceedances of screening criteria were recorded in surface water.	Defence notified and a S83a notification issued to the SA EPA. Continue monitoring in accordance with the PFAS OMP.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for January/February 2023.

5.3 Upcoming Annual Interpretive Report

The next annual interpretive report, encompassing all sampling events carried out in 2022 is scheduled to be delivered in the first half of 2023.

6.0 References

AECOM, 2022. *Sampling Analysis and Quality Plan - RAAF Base Edinburgh,* s.l.: s.n.

ANZG, 2018. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality,* s.l.: s.n.

AS/NZS, 1998. *Australian and New Zealand Water Quality Sampling - Guideance on the design on sampling programs, sampling techniques and the preservation and handling of samples.,* s.l.: s.n.

ASC NEPM, 2013. *Schedule B1. National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013), Schedule B1 Investigation Levels for Soil and Groundwater,* s.l.: s.n.

Bureau of Meteorology, 2022. *Edinburgh RAAF (station number 023083) Daily Rainfall.* [Online] Available at: <http://www.bom.gov.au/climate/data/?ref=ftr>

Department of Defence, 2016. *Routine Environment Water Quality Monitoring Manual,* s.l.: s.n.

Department of Defence, 2019. *PFAS Management Area Plan - RAAF Base Edinburgh,* s.l.: s.n.

Department of Defence, 2019. *Pollution Prevention Guideline: Routine Water Quality Monitoring Manual,* s.l.: s.n.

Department of Defence, 2021. *Contamination Management Manual,* s.l.: s.n.

Department of Defence, 2021. *PFAS OMP Factual Report Guidance, version 0.2, May 2022,* s.l.: s.n.

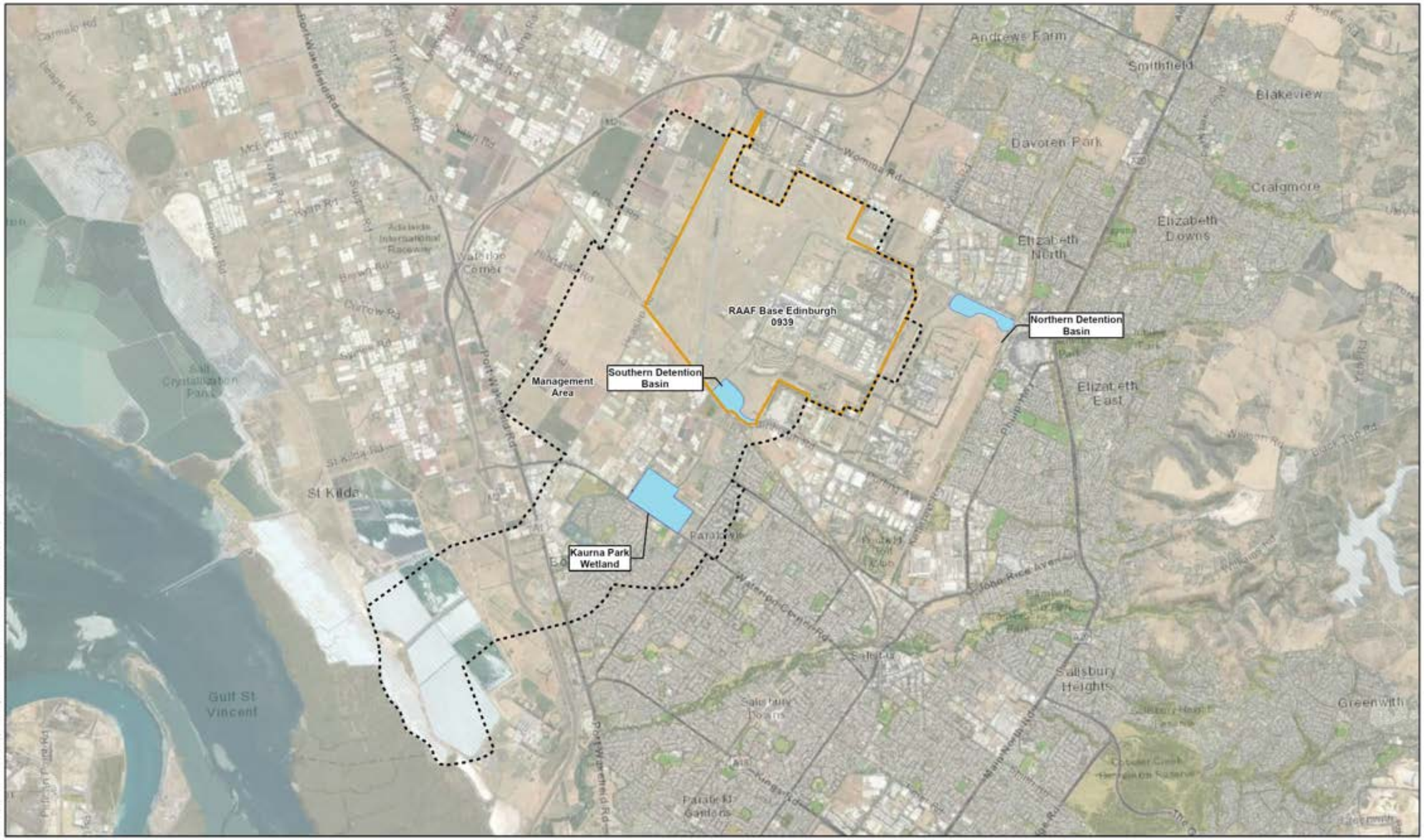
Department of Health, 2019. *Health based guidance values for PFAS for use in site investigations in Australia 2017 (as amended 2019),* s.l.: s.n.

HEPA, 2020. *PFAS National Environmental Management Plan,* s.l.: s.n.

NHMRC, 2019. *Guidance on Per and Polyfluoroalkyl (PFAS) in Recreational Water,* s.l.: National Health and Medical Research Council.

Appendix A

Figures



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:55,000 (when printed at A3)

LEGEND

- Detention Basin
- RAAF Base Edinburgh Boundary
- Management Area

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022

SITE LOCATION

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

Figure 1.1

A3 size

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

P4
P8
P16
P11
P3B
P27
P21
P1
P3A
P2
P9
P15A
P15B
P10
P23

AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 100 200 400 600
Metre

1:18,000 (when printed at A3)

LEGEND

PFAS Source Area
Detention Basin
RAAF Base Edinburgh Boundary
Management Area

Data sources:
Base Data: Imagery (c) 2017 ESRI

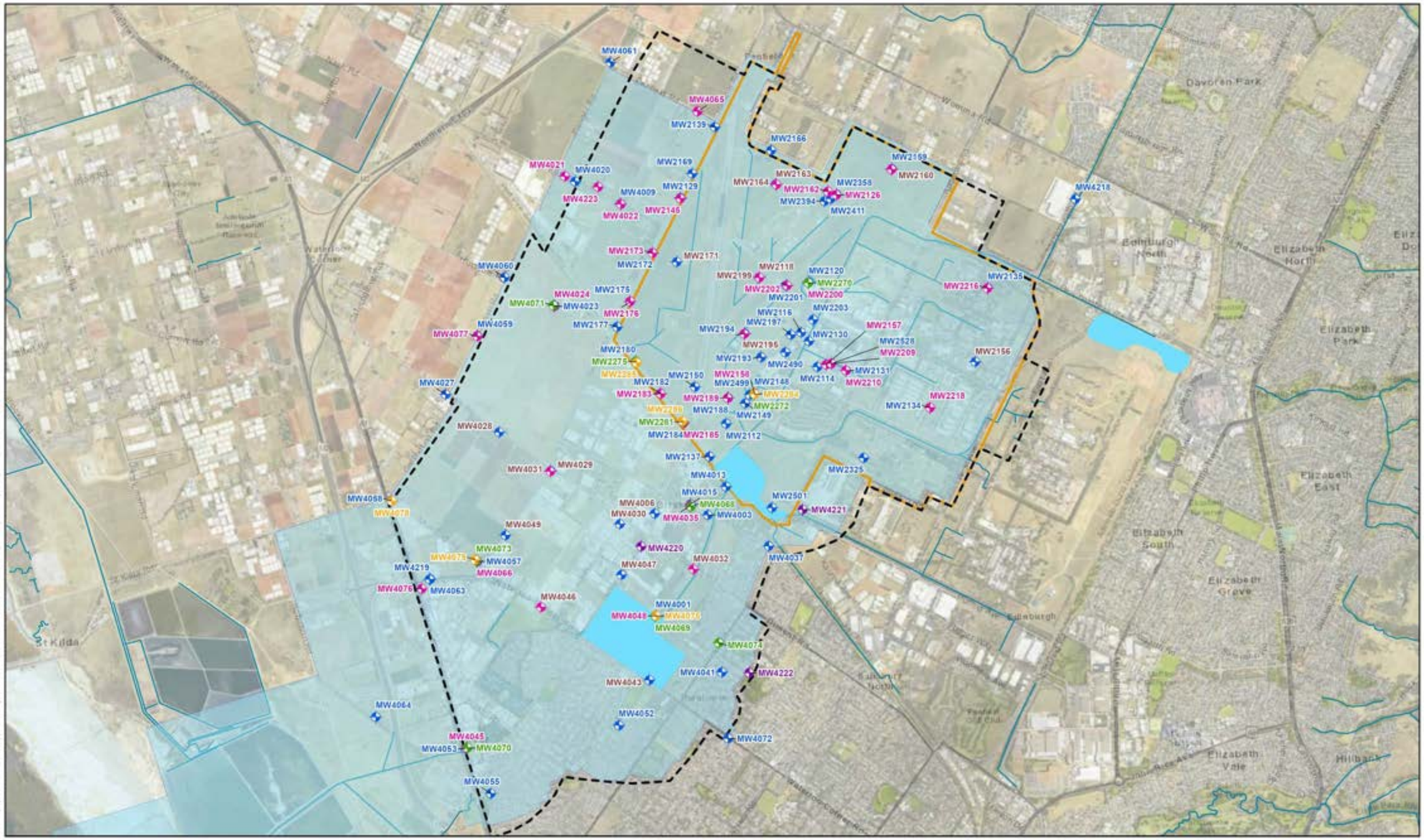
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022

INFERRED PFAS SOURCE AREAS

PROJECT ID 60612561
CREATED BY [redacted]
LAST MODIFIED
VERSION

Figure
1.2

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Gauging Locations Only

Management Area
RAAF Base Edinburgh Boundary
Detention Basin

Data sources:
Base Data: Imagery (c) 2017 ESRI

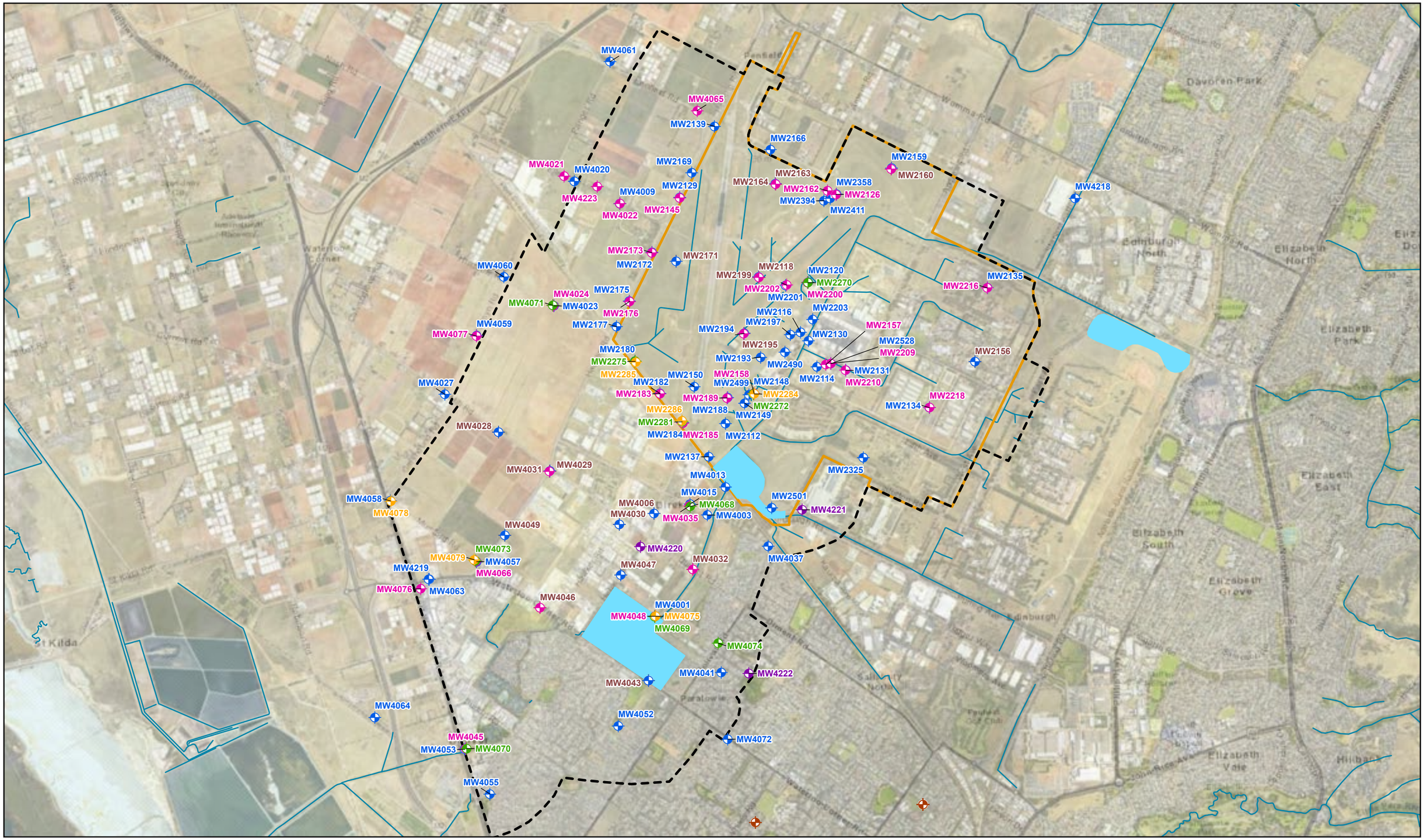
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022

GROUNDWATER PROHIBITION AREA

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

Figure
1.3

A3 size



AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, défects, or omissions in the information.

AECOM
www.aecom.com

N

GDA 1994 MGA Zone 54

0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

- Gauging Locations Only

Sample Locations

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

- Management Area
- RAAF Base Edinburgh Boundary
- Detention Basin

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022

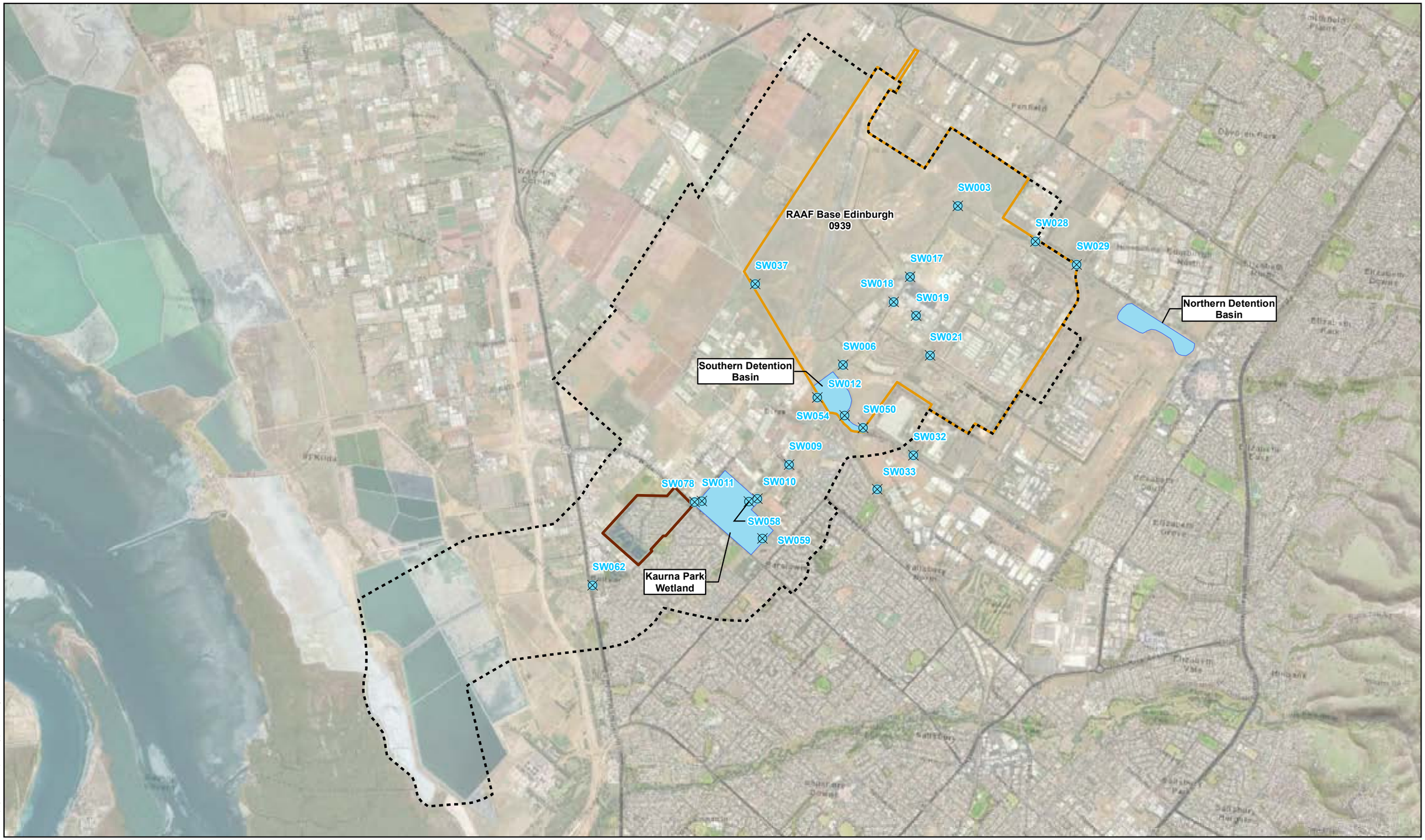
GROUNDWATER SAMPLE LOCATIONS

PROJECT ID [redacted]561
CREATED BY
LAST MODIFIED
VERSION:

Figure 2

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_Jul_2022\60612561_RAAF_Edinburgh_Jul_2022.aprx (rob.mcgregor), Layout: 60612561_Fig2_Jul_Report_GWSampleLoc, Last exported: 6/09/2022 3:32 PM

A3 size



AECOM

www.aecom.com

N

DATUM GDA 1994, PROJECTION MGA ZONE 54

0 0.5 1 2

Kilometers

1:45,000 (when printed at A3)

Legend

Surface Water Sample Locations

Type

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022

SURFACE WATER SAMPLE LOCATIONS

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

Figure 3

A3 size

Filename: \\AUDWN1FP001\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2020\04\60612561_F03_RAAFBaseEdinburgh_SurfaceWater_A3L.mxd

AECOM
www.aecom.com

N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

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

Data sources:

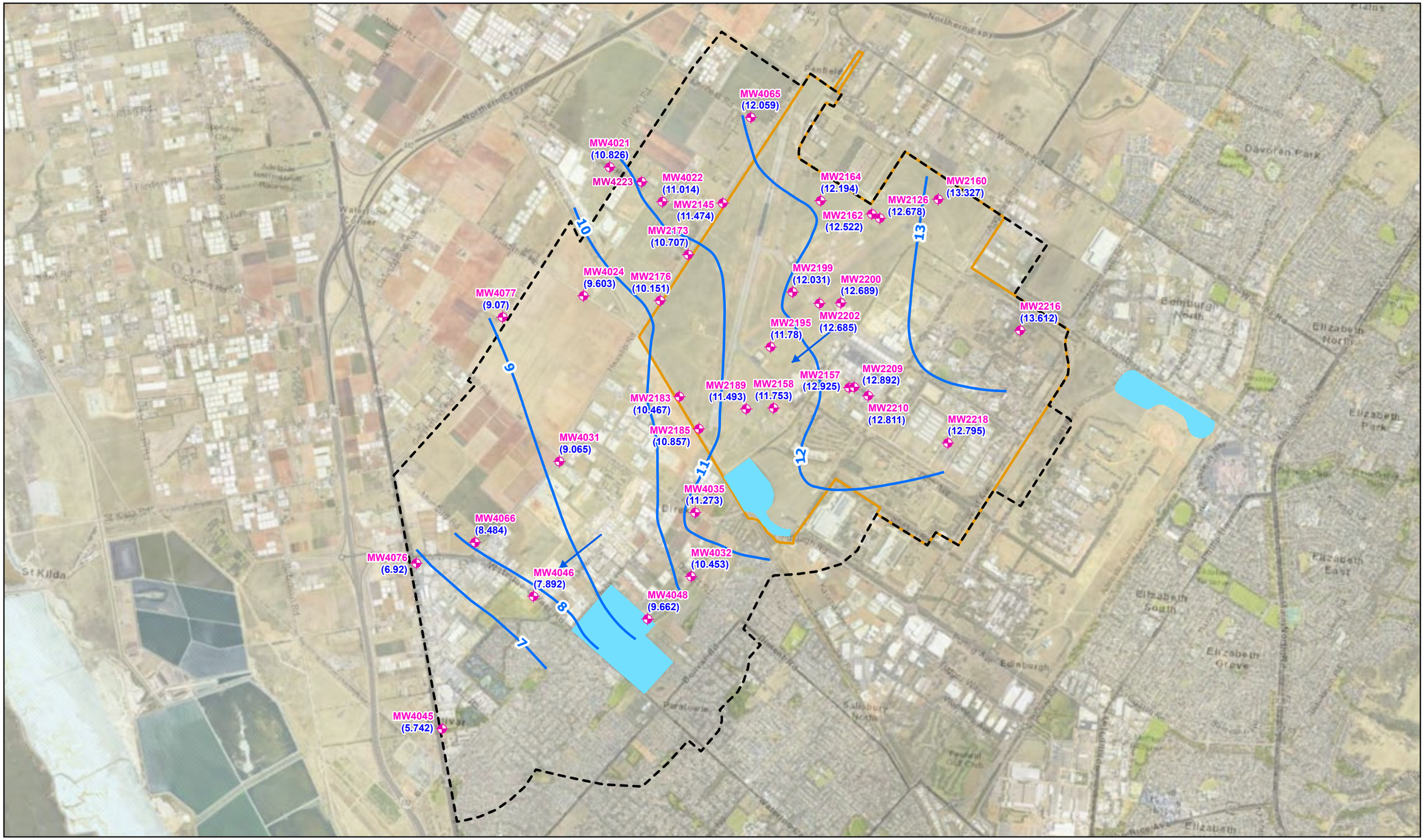
Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022
Inferred Groundwater Elevation
Q1 Monitoring Wells, July 2022

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

Figure 4.1

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

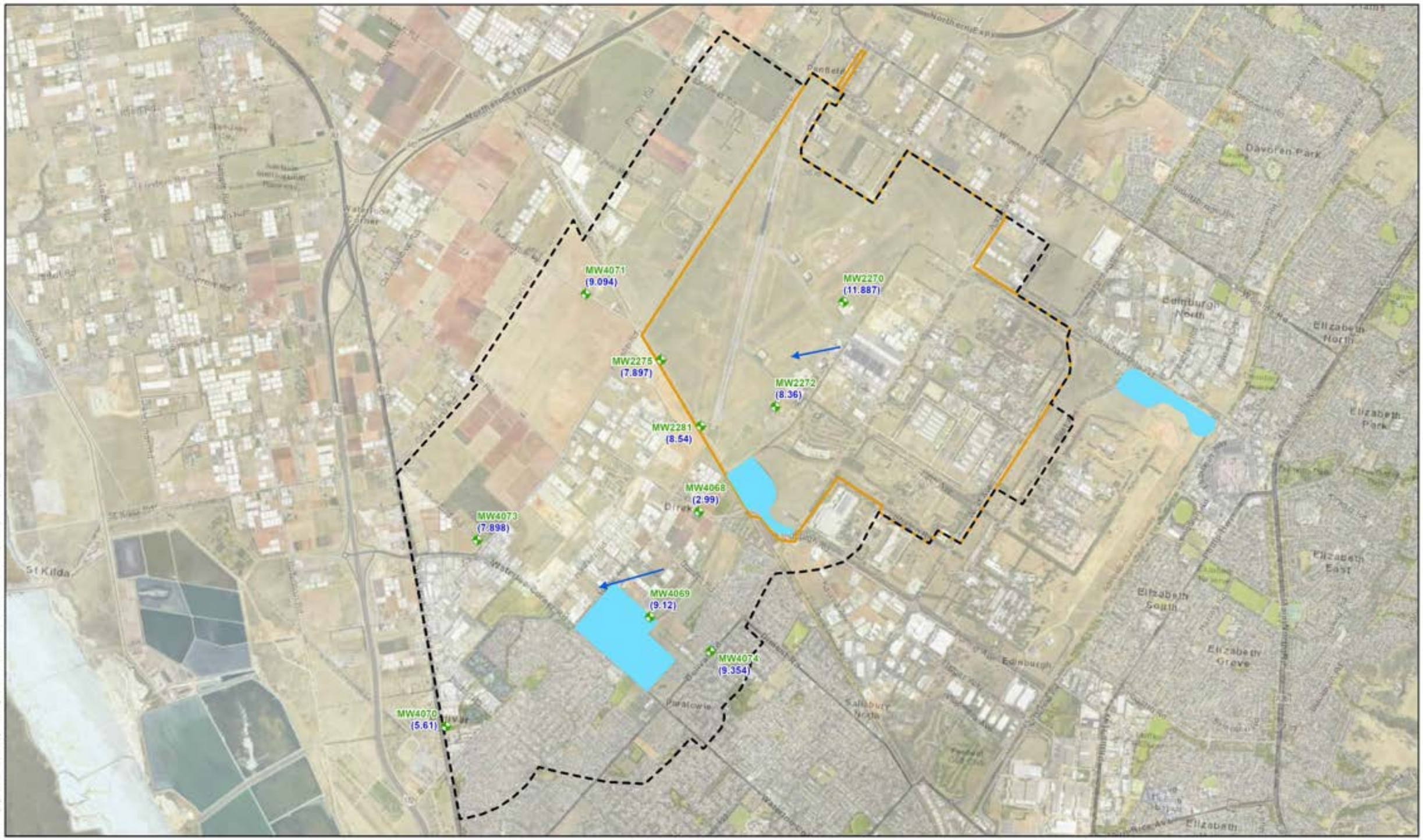
Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022
Inferred Groundwater Elevation Q2 Monitoring Wells, July 2022

PROJECT ID 60612561
CREATED BY
LAST MODIFIED [redacted] 06 SEP 2022
VERSION:

Figure 4.2

Filename: Project: \\na.aecomnet.com\LFS\APAC\Darwin-AUDWN1\Legacy\Projects\606x\60612561\900_CAD_GIS\920_GIS\60612561_Darwin_Def\02_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_Jul_2022\60612561_RAAF_Edinburgh_Jul_2022.aprx (rob.mcgregor), Layout: 60612561_Fig4.2_Jul_Report_GWL_Q2_2022, Last exported: 6/09/2022 1:57 PM

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

Sample Locations

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

Data sources:

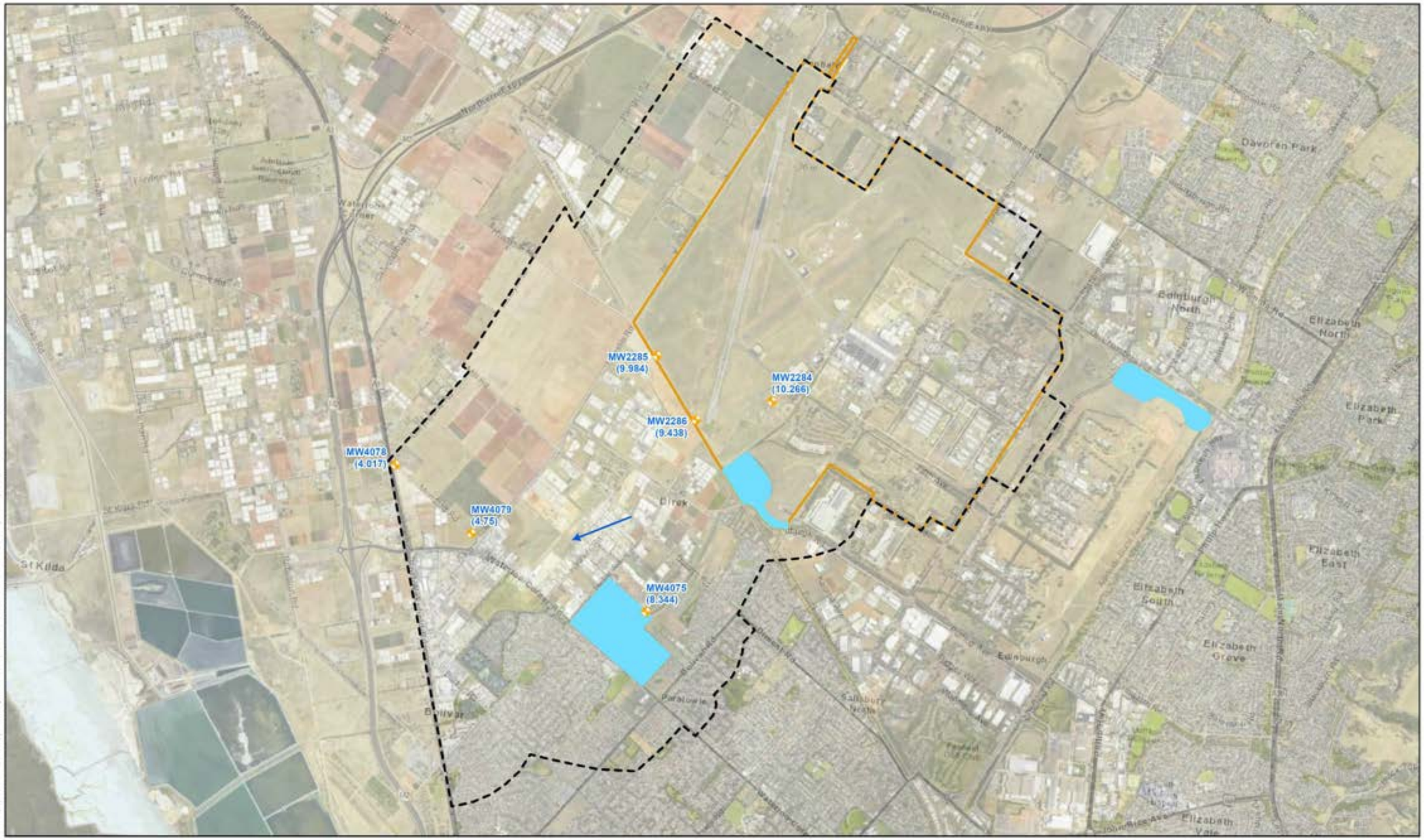
Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022
Inferred Groundwater Elevation Q3 Monitoring Wells, July 2022

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

Figure 4.3

A3 size



AECOM
www.aecom.com

N

GDA 1994 MGA Zone 52

0 0.5 1 2

Kilometre

1:35,000 (when printed at A3)

LEGEND

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

Data sources:

Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022
Inferred Groundwater Elevation Q4 Monitoring Wells, July 2022

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

Figure 4.4

A3 size

Filename: Project: \\ne.aecomnet.com\LFD\APAC\Darwin-AU\DWN1\Legacy\Projects\60x\60612561\602_CAD_GIS\02_GIS\60612561_Darwin_DefA2_MXDs\RAAF Base Edinburgh\02_MXDs\2022\60612561_RAAF_Edinburgh_Q4_2022\60612561_RAAF_Edinburgh_Q4_2022.aprx (mxd copy/ghm) Layout: 60612561_Fig4.4_Q4_Report_GWL_Q4_2022 Last exported: 21/03/2023 11:33 AM

MW2202

AECOM
www.aecom.com

N

GDA 1994 MGA Zone 52

0 0.5 1 2
Kilometre

1:35,000 (when printed at A3)

LEGEND

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

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

Data sources:
Base Data: Imagery (c) 2017 ESRI

Department of Defence
RAAF BASE EDINBURGH PFAS OMP
Sampling Event Factual Report, July 2022

GROUNDWATER RESULTS DEVIATIONS FROM HISTORICAL DATA

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

Figure 5

A3 size

Appendix B

Tables

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (mBTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (mBTOC)	Corrected Groundwater Elevation (mAHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW2112	25/07/2022	Q1	8.49	5.34 - 8.34	15.877	3.074	12.803	Good condition	6.01	7.96	2400	1560	1.90	17.3	60.7	Light Brown, No odour, Low Turbidity
MW2114	26/07/2022	Q1	9.00	5.86 - 8.86	17.697	4.872	12.825	Good condition	6.90	7.01	10581	6877	0.92	18.3	-109.2	Light Brown, No odour, Low Turbidity
MW2116	26/07/2022	Q1	8.40	6.03 - 9.03	16.978	4.171	12.807	Good condition	6.30	7.57	5363	3485	1.29	18.2	-48.5	Light Brown, No odour, Low Turbidity
MW2118	25/07/2022	Q1	8.79	5.95 - 8.95	17.329	5.370	11.959	Good condition	6.80	Gauge only						
MW2120	26/07/2022	Q1	6.22	3.25 - 6.25	18.180	3.405	14.775	Good condition	4.20	7.96	914	594	3.65	17.9	-129.8	Light Brown, No odour, Low Turbidity
MW2126	25/07/2022	Q2	17.28	14.28 - 17.28	20.151	7.473	12.678	Good condition	15.53	7.17	9064	5891	1.62	18.9	-120.3	Light Brown, No odour, Low Turbidity
MW2129	25/07/2022	Q1	6.39	3.37 - 6.37	15.881	4.469	11.412	Good condition	4.40	7.88	3293	2140	2.16	19.1	-35.7	Light Grey, No odour, Low Turbidity
MW2130	26/07/2022	Q1	8.22	5.38 - 8.38	17.483	4.208	13.275	Good condition	6.38	8.00	2583	1678	1.18	18.7	-33.6	Clear, No odour, Low Turbidity
MW2131	26/07/2022	Q1	8.55	5.45 - 8.45	18.058	5.027	13.031	Good condition	6.51	8.40	664	431	3.82	18.3	-62.8	Clear, No odour, Low Turbidity
MW2134	26/07/2022	Q1	10.80	7.83 - 10.83	19.716	6.870	12.846	Good condition	8.89	7.11	8155	5300	0.83	20.5	-190	Light Brown, No odour, Low Turbidity
MW2135	26/07/2022	Q1	11.00	7.97 - 10.97	20.504	7.000	13.504	Good condition	9.80	7.14	7781	5057	0.94	19.5	-14.5	Orange / Brown, No odour, Medium Turbidity
MW2137	25/07/2022	Q1	8.06	5.19 - 8.19	15.791	3.982	11.809	Good condition	6.30	7.97	730	474	2.60	18.1	82.6	Clear, No odour, Low Turbidity
MW2139	25/07/2022	Q1	11.30	8.33 - 11.33	18.653	6.649	12.004	Good condition	9.35	7.06	10226	6646	2.00	20.2	-4.2	Brown, No odour, Medium Turbidity
MW2145	25/07/2022	Q2	25.35	22 - 25	15.840	4.366	11.474	Good condition	23.00	7.09	6584	4279	1.76	19.4	-0.9	Light Brown, Slight Organic Odour, Low Turbidity
MW2148	25/07/2022	Q1	10.40	7.36 - 10.36	16.490	4.730	11.760	Good condition	8.39	8.46	3262	2120	3.49	20.1	47.2	Light Brown, Low Turbidity, No Odour
MW2149	26/07/2022	Q1	7.55	4.38 - 7.38	16.626	4.103	12.523	Good condition	5.30	7.87	2780	1807	6.16	17.5	34.4	Clear, No odour, Low Turbidity
MW2150	25/07/2022	Q1	8.17	4.97 - 7.97	14.873	3.984	10.889	Good condition	6.06	7.66	2436	1583	1.10	19.1	-163.9	Light Brown, No odour, Low Turbidity
MW2156	25/07/2022	Q1	9.14	6.05 - 9.05	19.773	6.074	13.699	Good condition	-	Gauge only						
MW2157	26/07/2022	Q2	18.50	15.23 - 18.23	17.777	4.852	12.925	Good condition	16.44	7.56	7461	4849	0.99	19.5	-246.3	Clear, No odour, Low Turbidity
MW2158	25/07/2022	Q2	17.80	14.85 - 17.85	16.498	4.745	11.753	Good condition	16.47	8.57	5837	3794	3.50	19.6	12	Light Brown, Low Turbidity, No Odour
MW2159	27/07/2022	Q1	10.59	5.5 - 8.5	20.478	7.219	13.259	Good condition	7.43	7.40	9008	5855	1.57	17.8	-22.5	Clear, No odour, Low Turbidity
MW2160	25/07/2022	Q2	23.89	19.5 - 22.5	20.433	7.106	13.327	Good condition	-	Gauge only						
MW2162	25/07/2022	Q2	20.98	17 - 21	19.721	7.199	12.522	Good condition	19.23	7.17	8805	5723	1.83	18.3	-238.4	Clear, Organic Odour, Low Turbidity
MW2163	25/07/2022	Q1	9.31	5.5 - 8.5	18.161	6.017	12.144	Good condition	-	Gauge only						
MW2164	25/07/2022	Q2	25.91	22.5 - 25.5	18.172	5.978	12.194	Good condition	-	Gauge only						
MW2166	25/07/2022	Q1	8.75	5 - 8	19.063	6.786	12.277	Good condition	6.10	6.96	10399	6759	0.75	19.4	-115.5	Black / Grey, No odour, Medium Turbidity
MW2169	25/07/2022	Q1	8.00	4.5 - 7.5	16.608	4.965	11.643	Good condition	6.25	7.21	8750	5687	2.07	19.5	-22.1	Orange / Brown, Slight Organic Odour, Medium Turbidity
MW2171	25/07/2022	Q1	10.05	6.2 - 9.5	16.471	5.736	10.735	Good condition	-	Gauge only						
MW2172	25/07/2022	Q1	10.27	6.5 - 9.5	15.828	5.113	10.715	Good condition	7.50	7.51	13781	8957	2.69	19.8	-93.4	Light Brown, No odour, Low Turbidity
MW2173	25/07/2022	Q2	20.35	16.5 - 21	15.882	5.175	10.707	Good condition	18.63	7.12	23296	15142	1.44	19.9	-192.2	Black / Grey, Organic Odour, Medium Turbidity
MW2175	25/07/2022	Q1	9.15	5.3 - 8.3	14.438	4.243	10.195	Good condition	6.19	7.34	19554	12710	2.60	19.0	29.9	Clear, No odour, Low Turbidity
MW2176	25/07/2022	Q2	23.10	19.2 - 22.2	14.282	4.131	10.151	Good condition	20.40	6.98	22466	14602	1.65	19.5	73.1	Light Brown, No odour, Low Turbidity
MW2177	25/07/2022	Q1	7.82	4.2 - 7.2	13.902	3.764	10.138	Good condition	5.27	7.76	9760	6344	4.48	19.3	-12	Light Brown, No odour, Low Turbidity
MW2180	25/07/2022	Q1	10.00	4 - 10	14.195	4.160	10.035	Good condition	5.91	8.09	2654	1725	2.30	19.5	-92.2	Light Brown, No odour, Low Turbidity
MW2182	25/07/2022	Q1	6.98	4.1 - 10	13.821	3.385	10.436	Good condition	5.02	7.78	6490	4218	1.41	20.8	-9.9	Clear, No odour, Low Turbidity
MW2183	25/07/2022	Q2	19.70	16.2 - 20	14.831	4.364	10.467	Good condition	17.92	8.03	11990	7793	1.15	19.3	-99.9	Light Brown, No odour, Low Turbidity
MW2184	25/07/2022	Q1	6.10	3.2 - 8.3	14.438	3.596	10.842	Good condition	4.14	8.31	1414	919	1.76	19.3	102	Light Brown, No odour, Low Turbidity
MW2185	25/07/2022	Q2	18.74	16.5 - 18	15.286	4.429	10.857	Good condition	16.96	7.54	6315	4104	2.10	19.7	101.9	Light Brown, No odour, Low Turbidity
MW2188	25/07/2022	Q1	5.51	2.5 - 5.5	15.460	4.008	11.452	Good condition	3.58	7.67	7671	4986	1.93	17.8	-82.9	Light Brown, No odour, Low Turbidity

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (mBTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (mBTOC)	Corrected Groundwater Elevation (mAHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW2189	25/07/2022	Q2	20.69	17 - 21	15.201	3.708	11.493	Good condition	18.52	7.72	2620	1703	1.65	19.5	-223.7	Light Brown, No odour, Low Turbidity
MW2193	25/07/2022	Q1	6.42	3.5 - 6.5	15.918	3.541	12.377	Good condition	4.42	7.79	4163	2705	1.94	19.4	-130.9	Light Brown, No odour, Low Turbidity
MW2194	25/07/2022	Q1	9.34	7 - 10	15.310	3.661	11.649	Good condition	7.40	7.11	18945	12314	1.39	19.5	-160.3	Clear, No odour, Low Turbidity
MW2195	25/07/2022	Q2	23.21	19 - 24	16.050	4.270	11.780	Good condition	21.08	Gauge only						
MW2197	25/07/2022	Q1	8.06	4.5 - 7.5	17.642	5.052	12.590	Good condition	6.09	7.86	6185	4020	1.08	19.4	-158.1	Clear, No odour, Low Turbidity
MW2199	25/07/2022	Q2	23.95	20 - 24	17.177	5.146	12.031	Good condition	-	Gauge only						
MW2200	26/07/2022	Q2	19.65	16.5 - 19.5	17.903	5.214	12.689	Good condition	17.64	9.12	11852	7703	2.14	18.7	-263.1	Black / Grey, Slight Organic Odour, Medium Turbidity
MW2201	25/07/2022	Q1	9.82	7 - 10	16.395	3.956	12.439	Good condition	7.85	7.42	8600	5590	1.57	19.2	-191	Light Brown, No odour, Low Turbidity
MW2202	25/07/2022	Q2	23.86	19 - 24	16.473	3.788	12.685	Good condition	21.28	7.12	7846	5099	0.99	19.4	-190.1	Black / Grey, Slight Organic Odour, Medium Turbidity
MW2203	25/07/2022	Q1	7.85	5 - 8	16.772	3.453	13.319	Good condition	5.90	7.54	4788	3112	0.97	19.2	-162.5	Light Brown, No odour, Low Turbidity
MW2209	26/07/2022	Q2	21.98	18.5 - 24	17.075	4.183	12.892	Good condition	19.80	7.26	6763	4395	0.61	18.5	-286.3	Light Brown, Organic Odour, Low Turbidity
MW2210	26/07/2022	Q2	21.58	17.1 - 20.4	18.087	5.276	12.811	Good condition. pH confirmed, WQM bump tested.	19.46	12.16	4917	3196	0.99	18.6	-126.2	Light Brown, No odour, Low Turbidity
MW2216	26/07/2022	Q2	21.88	18 - 21	20.468	6.856	13.612	Good condition	19.22	7.01	5060	3289	1.44	19.7	19.4	Clear, No odour, Low Turbidity
MW2218	26/07/2022	Q2	21.26	17 - 20.5	19.774	6.979	12.795	Good condition	19.20	7.54	6002	3901	1.06	20.8	-211.5	Light Brown, Organic Odour, Turbidity
MW2270	26/07/2022	Q3	39.97	33 - 42	18.100	5.849	12.251	Good condition	37.46	7.38	8686	5645	2.20	19.5	-180.3	Black / Grey, No odour, Low Turbidity
MW2272	25/07/2022	Q3	42.10	36 - 42	16.499	6.152	10.347	Good condition	40.90	12.95	5693	3700	1.43	20.4	-144.9	Clear, No Turbidity, No Odour
MW2275	25/07/2022	Q3	47.80	40.5 - 46.5	14.121	4.147	9.974	Good condition	46.12	7.13	6771	4401	1.32	19.6	-68.5	Light Brown, Slight Organic Odour, Low Turbidity
MW2281	25/07/2022	Q3	39.67	35.5 - 39	15.229	5.243	9.986	Good condition	38.60	7.00	8631	5610	1.24	19.6	146.8	Light Brown, No odour, Low Turbidity
MW2284	25/07/2022	Q4	59.90	55 - 61	16.509	6.243	10.266	Good condition	58.00	10.05	4263	2770	0.94	20.0	-202.3	Cloudy White, Medium Turbidity, Bleach Odour. HydraSleeve coated in white sediment
MW2285	25/07/2022	Q4	58.00	51 - 57	14.287	4.303	9.984	Good condition	56.00	7.31	5677	3690	0.87	18.7	-161.4	Light Brown, Slight Organic Odour, Low Turbidity
MW2286	25/07/2022	Q4	52.34	51 - 57	15.323	5.885	9.438	White-cream sediment at bottom of sleeve	51.30	11.41	2370	1540	2.13	19.4	-194.7	Other, No odour, Low Turbidity
MW2325	26/07/2022	Q1	10.90	7.9-10.9	19.127	6.740	12.387	Good condition	8.95	6.89	7199	4679	2.50	18.7	-79.8	Light Brown, No odour, Low Turbidity
MW2358	25/07/2022	Q1	11.03	8.01 - 11.01	20.062	7.394	12.668	Good condition	9.00	7.06	8720	5668	2.48	19.4	-97.2	Black / Grey, No odour, Medium Turbidity
MW2394	25/07/2022	Q1	11.71	8.74 - 11.74	18.788	6.306	12.482	Good condition	9.83	7.21	10480	6812	0.63	18.9	-266.1	Black, Slight Organic Odour, Turbid Turbidity
MW2411	25/07/2022	Q1	11.40	7.42 - 10.42	18.718	6.135	12.583	Good condition	8.47	7.07	9730	6324	0.75	19.7	-242.4	Black / Grey, Organic Odour, Medium Turbidity
MW2490	26/07/2022	Q1	8.53	4.6 - 7.6	17.580	4.816	12.764	Good condition	6.47	7.55	4255	2765	1.82	19.2	9.1	Light Brown, No odour, Low Turbidity
MW2499	26/07/2022	Q1	7.92	6.06 - 9.06	15.769	3.815	11.954	Good condition	7.06	8.39	1478	960	5.30	18.5	-1.1	Clear, No odour, Low Turbidity
MW2501	26/07/2022	Q1	10.75	7.61 - 10.61	15.673	3.114	12.559	Good condition	8.62	7.79	3273	2127	1.45	19.5	-159.5	Light Brown, No odour, Low Turbidity
MW2528	26/07/2022	Q1	9.00	6.06 - 9.06	17.181	4.219	12.962	Good condition	7.18	7.81	2078	1350	1.63	18.6	-220.6	Light Brown, Slight Organic Odour, Low Turbidity
MW4001	25/07/2022	Q1	9.55	6.56 - 9.56	12.909	2.904	10.005	Good condition	7.67	8.45	1194	776	2.84	18.2	-104.8	Light Brown, Low Turbidity, Slight Organic Odour
MW4003	28/07/2022	Q1	7.83	4.63 - 7.63	13.460	1.770	11.690	Good condition	5.82	7.66	5900	3835	1.96	18.8	-115.5	Light Brown, No odour, Low Turbidity
MW4006	25/07/2022	Q1	7.25	4.25 - 7.25	13.283	2.118	11.165	Good condition	-	Gauge only						
MW4009	27/07/2022	Q1	21.80	6.5 - 9.5	14.370	3.445	10.925	Good condition	6.81	7.21	6578	4275	2.76	19.8	-111.7	Light Brown, No odour, Low Turbidity
MW4013	27/07/2022	Q1	5.00	3.95 - 6.95	13.123	0.352	12.771	Good condition	3.00	7.89	1873	1217	4.60	14.9	56.8	Light Brown, No odour, Low Turbidity
MW4015	28/07/2022	Q1	7.00	3.96 - 6.96	13.627	4.954	8.673	Good condition	4.90	7.71	3298	2143	2.19	17.6	-43.6	Orange / Brown, No odour, Turbid Turbidity
MW4020	27/07/2022	Q1	8.27	5.4 - 8.4	13.970	3.013	10.957	Good condition	6.35	7.21	5042	3277	4.25	18.4	24.4	Light Brown, No odour, Low Turbidity
MW4021	27/07/2022	Q2	17.85	15 - 18	13.697	2.871	10.826	Good condition	16.05	7.17	4936	3208	2.45	18.7	-1.6	Light Brown, No odour, Low Turbidity
MW4022	27/07/2022	Q2	21.80	19 - 22.5	14.423	3.409	11.014	Good condition	19.80	7.42	3709	2410	0.86	19.00	-221.9	Black / Grey, Slight Organic Odour, Medium Turbidity
MW4023	27/07/2022	Q1	8.00	5 - 8	11.855	2.264	9.591	Good condition	5.90	7.04	21877	14220	0.81	18.3	-114.1	Light Brown, No odour, Medium Turbidity
MW4024	27/07/2022	Q2	17.78	15 - 21	11.895	2.292	9.603	Good condition	16.30	7.15	19934	12957	1.05	18.2	-189.7	Light Brown, No odour, Medium Turbidity

Table T1: Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (mBTOC)	Screen Interval	R.L. Top of Casing	Depth to Water (mBTOC)	Corrected Groundwater Elevation (mAHD)	Well Condition	Hydrasleeve Deployment Depth (m)	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
										pH units	µS/cm	mg/L	mg/L	°C	mV	
MW4027	27/07/2022	Q1	7.89	5 - 8	9.532	0.923	8.609	Top of casing flooded	5.97	7.88	900	585	3.45	17.2	-117.7	Black / Grey, No odour, Medium Turbidity
MW4028	25/07/2022	Q1	7.92	5 - 8	10.396	1.741	8.655	Good condition	-	Gauge only						
MW4029	25/07/2022	Q1	8.41	5.5 - 8.5	11.916	2.802	9.114	Good condition	-	Gauge only						
MW4030	25/07/2022	Q1	8.37	5.3 - 8.5	11.755	2.235	9.520	Good condition	-	Gauge only						
MW4031	25/07/2022	Q2	23.12	21 - 24	11.831	2.766	9.065	Good condition	-	Gauge only						
MW4032	25/07/2022	Q2	9.52	16.5 - 19.5	12.948	2.495	10.453	Good condition	-	Gauge only						
MW4035	28/07/2022	Q2	22.65	19 - 22.5	13.735	2.462	11.273	Good condition	20.51	7.63	2448	1591	1.18	18.7	-128.6	Light Brown, No odour, Low Turbidity
MW4037	27/07/2022	Q1	8.15	5 - 8	15.193	3.540	11.653	Good condition	6.07	7.51	4781	3107	3.89	19.6	15.3	Light Brown, No odour, Low Turbidity
MW4041	27/07/2022	Q1	10.10	7 - 10	14.606	5.407	9.199	Good condition	8.07	6.94	5200	3380	1.65	18.9	15.8	Light Brown, No odour, Low Turbidity
MW4043	25/07/2022	Q2	7.92	5 - 10	12.125	3.620	8.505	Good condition	-	Gauge only						
MW4045	25/07/2022	Q2	19.00	15 - 18	7.328	1.586	5.742	Good condition	16.34	8.34	2924	1900	2.73	19.6	-73.6	Light Brown, Low Turbidity, No Odour
MW4046	25/07/2022	Q2	6.62	3.5 - 6.5	9.190	1.298	7.892	Good condition	-	Gauge only						
MW4047	25/07/2022	Q1	8.52	5.5 - 8.5	11.657	2.556	9.101	Good condition	-	Gauge only						
MW4048	25/07/2022	Q2	20.98	18 - 21	12.975	3.313	9.662	Good condition	19.30	8.77	792	514	2.51	18.1	22.8	Light Brown, Low to Medium Turbidity, No Odour
MW4049	25/07/2022	Q1	8.40	5.5 - 8.5	10.643	1.737	8.906	Good condition	-	Gauge only						
MW4052	27/07/2022	Q1	9.81	6.5 - 9.5	12.057	4.149	7.908	Good condition	7.50	7.87	1015	659	3.36	19.0	-63	Orange / Brown, No odour, Medium Turbidity
MW4053	25/07/2022	Q1	8.50	5.25 - 8.5	7.450	1.711	5.739	Good condition	6.20	8.14	2167	1408	2.62	19.0	-66.5	Light Brown, Low Turbidity, No Odour
MW4055	27/07/2022	Q1	9.00	6 - 9	7.883	2.219	5.664	Good condition	7.00	7.51	3606	2343	2.79	20.4	48.5	Orange / Brown, No odour, Medium Turbidity
MW4057	28/07/2022	Q1	8.00	5 - 8	9.429	0.878	8.551	Good condition	6.00	7.87	5711	3712	2.12	18.1	-118.3	Dark Brown, No odour, Turbid Turbidity
MW4058	25/07/2022	Q1	5.25	2.5 - 5.5	9.407	2.557	6.850	Good condition	3.50	7.74	4049	2631	1.43	18.8	99.9	Grey/green, Medium Turbidity, No Odour
MW4059	27/07/2022	Q1	8.00	5 - 8	10.204	1.150	9.054	Good condition	5.90	7.51	10412	6767	3.40	18.5	-177	Light Brown, No odour, Low Turbidity
MW4060	27/07/2022	Q1	7.00	3.9 - 6.9	11.386	1.618	9.768	Bolts damaged	4.50	7.47	5594	3636	1.75	18.1	-84.1	Light Brown, No odour, Low Turbidity
MW4061	25/07/2022	Q1	7.95	5 - 8	16.538	4.277	12.261	Good condition	6.00	7.47	3361	2184	1.18	17.3	52.4	Light Brown, No odour, Medium Turbidity
MW4064	28/07/2022	Q1	7.81	5 - 8	5.885	0.954	4.931	Good condition	5.80	7.78	3411	2217	5.15	18.8	-93.7	Brown, No odour, Low Turbidity
MW4065	27/07/2022	Q2	20.04	17 - 20	17.754	5.695	12.059	Good condition	18.30	7.39	3923	2549	1.65	18.9	-37.4	Light Brown, No odour, Medium Turbidity
MW4066	28/07/2022	Q2	18.00	15 - 18	9.478	0.994	8.484	Gatic flooded below top of casing	16.00	7.77	10760	6994	2.74	18.1	-108.8	Clear, Slight Organic Odour, Low Turbidity
MW4068	25/07/2022	Q3	44.60	42 - 45	13.749	6.481	7.268	Good condition	43.82	11.68	2322	1509	1.57	19.4	-57.6	Clear, No Turbidity, Slight Organic Odour
MW4069	25/07/2022	Q3	-	31.5 - 36	12.920	3.388	9.532	Good condition	33.25	8.89	1071	696	1.72	18.0	7.7	Light Brown, Low to Medium Turbidity, No Odour
MW4070	25/07/2022	Q3	45.00	30 - 45	7.311	1.448	5.863	Good condition	43.00	9.27	2092	1359	2.82	18.7	-187.9	Grey, Medium Turbidity, Organic Odour
MW4071	25/07/2022	Q3	29.60	27 - 30	12.009	2.251	9.758	Good condition	27.00	7.90	7501	4875	2.82	19.6	-209.5	Grey/brown, Low Turbidity, Organic Odour
MW4072	27/07/2022	Q1	13.90	10 - 13	17.147	9.194	7.953	Good condition	10.99	7.39	1525	991	2.47	19.9	-12.4	Light Brown, No odour, Low Turbidity
MW4073	28/07/2022	Q3	-	40.5 - 43.5	9.458	1.104	8.354	Good condition	41.50	8.40	11158	7252	3.37	18.3	-207.2	Black / Grey, Slight Organic Odour, Low Turbidity
MW4074	25/07/2022	Q3	39.00	33 - 39	14.060	4.325	9.735	Good condition	37.53	8.32	2048	1331	2.58	17.7	-160.2	Grey, Medium Turbidity, Organic Odour. Fine suspended sediment
MW4075	25/07/2022	Q4	-	45 - 48	13.059	4.715	8.344	Good condition	46.12	11.39	1823	1184	2.35	17.6	-126.9	Clear, No Turbidity, Calcium Odour
MW4076	28/07/2022	Q2	-	15 - 18	7.942	1.022	6.920	Good condition	15.91	7.46	1908	1240	2.67	18.5	-176.9	Black / Grey, Organic Odour, Turbid
MW4077	27/07/2022	Q2	18.00	15 - 18	10.232	1.162	9.070	Good condition	15.95	7.82	9782	6358	1.25	18.2	-253	Light Brown, Organic Odour, Low Turbidity
MW4078	25/07/2022	Q4	53.20	51 - 54	9.537	5.520	4.017	Good condition	52.00	8.31	12431	8080	1.39	19.8	101.8	Clear, Low Turbidity, No Odour
MW4079	28/07/2022	Q4	57.01	52.5 - 57	9.505	4.755	4.750	Good condition	55.00	12.43	9844	6398	3.89	18.1	-52.6	Clear, No odour, Low Turbidity
MW4218	27/07/2022	Q1	9.70	7 - 10	21.857	7.265	14.592	Good condition	8.50	6.71	17176	11164	1.09	19.7	-143.9	Black / Grey, Organic Odour, Medium Turbidity
MW4219	28/07/2022	Q1	8.50	5.5 - 8.5	8.978	1.754	7.224	Good condition	6.50	7.70	8696	5652	4.31	20.5	-38.7	Light Brown, No odour, Medium Turbidity
MW4220	27/07/2022	T1	105.00	94 - 107	-	6.406	-	Key from DEW required for access	103.00	7.69	1346	874	1.20	20.8	-83.3	Clear, No odour, Low Turbidity
MW4221	25/07/2022	T1	-	96 - 110	-	-	-	Good condition	-	7.76	1562	1015	3.59	20.9	54.9	Clear, No Turbidity, No Odour
MW4222	25/07/2022	T1	-	102 - 120	-	-	-	Good condition	-	7.66	1052	683	2.07	21.2	-65.4	Clear, No Turbidity, No Odour
MW4223	29/07/2022	Q2	-	23.8 - 27	-	-	-	Good condition	-	7.38	4117	2676	3.68	19.3	-37.9	Clear, No odour

Notes:

mAHD: metres above Australian Height Datum

mBTOC: metres Below Top Of Casing

°C: Degrees Celsius

mg/L: Milligrams per litre (ppm w/v)

mV: Millivolts

µS/cm: Micro Siemens per centimetre

EC: Electrical Conductivity

* Approximate value determined using the following equation: TDS (mg/L) = EC x 0.65

- : no data

Table T2: Groundwater Analytical Results

					Per- and Poly-fluoroalkyl Substances																																
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water					**0.56**	**0.07**	**0.07**																													**0.07**	
Location	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report**																																	
MW2112	0939_MW2112_220725	25/07/2022	Primary	EM2214753	0.06	**2.7**	**0.59**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.08	0.04	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**3.29**	3.6
MW2114	0939_MW2114_220726	26/07/2022	Primary	EM2214753	**12.2**	**130**	**83**	<0.05	0.57	<0.05	<0.05	<0.03	<0.03	<0.08	17.8	4.79	0.04	22.2	10.8	6.28	<0.03	<0.03	<0.03	17	2.2	<0.08	<0.08	<0.08	<0.08	<0.03	<0.03	<0.03	**213**	307
MW2116	0939_MW2116_220726	26/07/2022	Primary	EM2214753	**385**	**6900**	**6700**	<0.36	0.89	<0.36	<0.36	<0.36	<0.36	<0.9	877	237	0.63	1180	407	172	3.28	<0.36	<0.36	584	51.2	<0.9	<0.9	<0.9	<0.9	<0.36	9.45	<0.36	**13,600**	17,500
	0939_QC105_220726		Intra-Lab Duplicate	EM2214753	**390**	**6910**	**6540**	<0.36	1.09	<0.36	<0.36	<0.36	<0.36	<0.89	941	238	0.53	1140	431	178	2.78	<0.36	<0.36	602	50.3	<0.89	<0.89	<0.89	<0.89	<0.36	6.27	<0.36	**13,400**	17,400
	0939_QC205_220726		Inter-Lab Duplicate	RN1361583	**250**	**4000**	**4300**	<0.01	1.1	0.12	<0.01	<0.01	<0.02	<0.02	550	180	0.77	860	220	120	<0.01	<0.01	0.12	480	120	<0.02	<0.05	<0.02	<0.05	<0.01	3.8	<0.01	**8300**	11,086
MW2120	0939_MW2120_220726	26/07/2022	Primary	EM2214753	**0.62**	**48.2**	**3.21**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.07	<0.02	0.35	1.12	0.09	0.36	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.46	<0.02	**51.4**	54.8
MW2126	0939_MW2126_220725	25/07/2022	Primary	EM2214753	0.04	**0.54**	**0.72**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.03	<0.02	0.14	0.06	0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.26**	1.75
	0939_QC102_220725		Intra-Lab Duplicate	EM2214753	0.04	**0.54**	**0.78**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.03	<0.02	0.14	0.06	0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.32**	1.8
	0939_QC202_220725		Inter-Lab Duplicate	RN1361583	0.03	**0.41**	**0.76**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.1	0.03	<0.01	0.15	0.036	0.02	<0.01	<0.01	<0.01	0.091	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.17**	1.627
MW2129	0939_MW2129_220725	25/07/2022	Primary	EM2214753	**0.67**	**2.53**	**16.8**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.09	0.36	<0.02	2.91	0.26	0.32	<0.02	<0.02	<0.02	0.42	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**19.3**	25.4
MW2130	0939_MW2130_220726	26/07/2022	Primary	EM2214753	**8.45**	**227**	**49.2**	<0.05	0.3	0.19	<0.05	<0.04	<0.04	<0.09	7.45	5.31	0.25	24.9	6.75	4.31	0.94	<0.04	0.12	5.79	2.2	<0.09	<0.09	<0.09	<0.09	<0.04	0.18	<0.04	**276**	343
MW2131	0939_MW2131_220726	26/07/2022	Primary	EM2214753	**6.59**	**200**	**17**	<0.05	1.3	0.11	<0.05	<0.03	<0.03	<0.08	1.34	4.08	0.15	9.57	0.62	2.34	0.11	<0.03	0.04	1.03	1.1	<0.08	<0.08	<0.08	<0.08	<0.03	0.72	<0.03	**217**	246
MW2134	0939_MW2134_220726	26/07/2022	Primary	EM2214753	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.08
MW2135	0939_MW2135_220726	26/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2137	0939_MW2137_220725	25/07/2022	Primary	EM2214753	0.34	**11**	**11.7**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.28	0.21	<0.02	1.27	0.51	0.15	<0.02	<0.02	<0.02	0.84	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**22.7**	27.3
MW2139	0939_MW2139_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	**0.16**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.16**	0.16
MW2145	0939_MW2145_220725	25/07/2022	Primary	EM2214753	0.03	**0.91**	**0.64**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.55**	1.84
MW2148	0939_MW2148_220725	25/07/2022	Primary	EM2214753	**31.8**	**588**	**368**	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.88	49.3	13.2	<0.35	67.3	33.2	12.1	<0.35	<0.35	<0.35	46.2	5.7	<0.88	<0.88	<0.88	<0.88	<0.35	<0.35	<0.35	**956**	1210
MW2149	0939_MW2149_220726	26/07/2022	Primary	EM2214753	**8.58**	**108**	**108**	<0.05	0.36	<0.05	<0.05	<0.03	<0.03	<0.08	15.9	4.88	0.04	21.5	8.3	3.95	<0.03	<0.03	<0.03	9.43	1.6	<0.08	<0.08	<0.08	<0.08	<0.03	0.14	<0.03	**216**	291
MW2150	0939_MW2150_220725	25/07/2022	Primary	EM2214753	0.12	**10.7**	**4.23**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	0.08	<0.02	0.39	0.23	0.05	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**14.9**	16.3
MW2157	0939_MW2157_220726	26/07/2022	Primary	EM2214753	0.35	**11.4**	**4.39**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.61	0.2	<0.02	1	0.42	0.14	<0.02	<0.02	<0.02	0.59	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**15.8**	19.1
MW2158	0939_MW2158_220725	25/07/2022	Primary	EM2214753	**71.6**	**1580**	**634**	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.89	112	38.8	<0.36	193	66	33.8	<0.36	<0.36	<0.36	99.1	13.5	<0.89	<0.89	<0.89	<0.89	<0.36	<0.36	<0.36	**2210**	2840
MW2159	0939_MW2159_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2162	0939_MW2162_220725	25/07/2022	Primary	EM2214753	<0.01	**0.16**	**0.29**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.45**	0.56
	0939_QC103_220725		Intra-Lab Duplicate	EM2214753	0.01	**0.14**	**0.26**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.4**	0.52
	0939_QC203_220725		Inter-Lab Duplicate	RN1361583	0.021	**0.34**	**0.63**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.063	<0.02	<0.01	0.084	0.019	0.013	<0.01	<0.01	<0.01	0.06	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.97**	1.23
MW2166	0939_MW2166_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2169	0939_MW2169_220725	25/07/2022	Primary	EM2214753	<0.01	0.07	**0.43**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.5**	0.63
MW2172	0939_MW2172_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	**0.1**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.1**	0.1
MW2173	0939_MW2173_220725	25/07/2022	Primary	EM2214753	<0.01	0.02	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW2175	0939_MW2175_220725	25/07/2022	Primary	EM2214753	<0.01	**0.07**	**0.24**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.31**	0.43
MW2176	0939_MW2176_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2177	0939_MW2177_220725	25/07/2022	Primary	EM2214753	0.16	**4.88**	**2.93**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	0.07	<0.02	0.56	0.29	0.06	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**7.81**	9.25
MW2180	0939_MW2180_220725	25/07/2022	Primary	EM2214753	**7.77**	**48.7**	**57**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.52	0.89	0.08	6.72	6.21	0.81	<0.02	<0.02	<0.02	0.57	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	<0.02	**106**	132
MW2182	0939_MW2182_220725	25/07/2022	Primary	EM2214753	<0.01	0.03	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW2183	0939_MW2183_220725	25/07/2022	Primary	EM2214753	0.11	**3.99**	**1.99**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.25	0.06	<0.02	0.31	0.15	0.05	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**5.98**	7.12
MW2184	0939_MW2184_220725	25/07/2022	Primary	EM2214753	<0.01	0.03	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW2185	0939_MW2185_220725	25/07/2022	Primary	EM2214753	0.22	**8.15**	**3.99**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.5	0.1	<0.02	0.52	0.3	0.09	<0.02	<0.02	<0.02	0.37	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**12.1**	14.2
MW2188	0939_MW2188_220725	25/07/2022	Primary	EM2214753	**5.17**	**139**	**94**	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	13.3	3.78	<0.03	17	8.21	2.36	<0.03	<0.03	<0.03	9.25	1	<0.08	<0.08	<0.08	<0.08	<0.03	<0.03	<0.03	**233**	293
MW2189	0939_MW2189_220725	25/07/2022	Primary	EM2214753	**8.33**	**290**	**118**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	18.4	5.34	0.05	23.1	17	3.98	<0.04	<0.04	<0.04	12.9	1.7	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**408**	499
MW2193	0939_MW2193_220725	25/07/2022	Primary	EM2214753	**1.54**	**53.9**	**34**	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.09	5.32	1.48	<0.03	7.62	2.41	0.86	0.09	<0.03	<0.03	4.25	0.5	<0.09	<0.09	<0.09	<0.09	<0.03	0.04	<0.03	**87.9**	112
MW2194	0939_MW2194_220725	25/07/2022	Primary	EM2214753	0.03	**0.91**	**0.47**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.38**	1.64

Table T2: Groundwater Analytical Results

					Per- and Poly-fluoroalkyl Substances																																	
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water					**0.56**	**0.07**	**0.07**																													**0.07**	
Location	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report**																																	
MW2197	0939_MW2197_220725	25/07/2022	Primary	EM2214753	**11.6**	**387**	**176**	<0.05	0.13	<0.05	<0.05	<0.04	<0.04	<0.09	27.7	6.88	0.1	32.7	28.9	5.34	0.17	<0.04	<0.04	16.8	2.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.18	<0.04	**563**	696
MW2200	0939_MW2200_220726	26/07/2022	Primary	EM2214753	**2.94**	**50.1**	**59.6**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	8.04	1.78	<0.02	9.46	4.48	1.49	<0.02	<0.02	<0.02	6.26	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**110**	145
MW2201	0939_MW2201_220725	25/07/2022	Primary	EM2214753	<0.01	**0.32**	**0.16**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.48**	0.48
MW2202	0939_MW2202_220725	25/07/2022	Primary	EM2214753	<0.01	**0.09**	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.11**	0.11
MW2203	0939_MW2203_220725	25/07/2022	Primary	EM2214753	**59.2**	**4330**	**875**	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.87	113	37.8	<0.35	174	159	27.2	<0.35	<0.35	<0.35	79.6	5.8	<0.87	<0.87	<0.87	<0.87	<0.35	<0.35	<0.35	**5200**	5860
MW2209	0939_MW2209_220726	26/07/2022	Primary	EM2214753	<0.01	**0.43**	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.46**	0.46
MW2210	0939_MW2210_220726	26/07/2022	Primary	EM2214753	**3**	**66.3**	**40.4**	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	5.87	2.26	<0.03	11.5	6.49	1.78	<0.03	<0.03	<0.03	7.16	0.8	<0.08	<0.08	<0.08	<0.08	<0.03	<0.03	<0.03	**107**	146
MW2216	0939_MW2216_220726	26/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2218	0939_MW2218_220726	26/07/2022	Primary	EM2214753	0.09	**2.91**	**0.95**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.04	<0.02	0.22	0.09	0.03	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**3.86**	4.62
	0939_QC106_220726-1		Intra-Lab Duplicate	EM2214753	0.08	**2.74**	**0.89**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.04	<0.02	0.19	0.11	0.03	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**3.63**	4.27
	0939_QC206_220726		Inter-Lab Duplicate	RN1361583	0.1	**1.5**	**0.99**	<0.01	0.027	<0.01	<0.01	<0.01	<0.02	<0.02	0.092	0.045	<0.01	0.2	0.084	0.03	<0.01	<0.01	<0.01	0.078	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**2.49**	3.146
MW2270	0939_MW2270_220726	26/07/2022	Primary	EM2214753	0.06	**0.52**	**1.07**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.17	0.04	<0.02	0.23	0.05	0.03	<0.02	<0.02	<0.02	0.16	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.59**	2.33
MW2272	0939_MW2272_220725	25/07/2022	Primary	EM2214753	**17.3**	**118**	**194**	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	34.9	12.5	0.08	61	20	10	<0.04	<0.04	<0.04	35.3	4.7	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	**312**	508
MW2275	0939_MW2275_220725	25/07/2022	Primary	EM2214753	0.12	**0.18**	**1.32**	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.19	0.03	0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.5**	2.03
	0939_QC101_220725		Intra-Lab Duplicate	EM2214753	0.12	**0.18**	**1.25**	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.19	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.43**	1.93
	0939_QC201_220725		Inter-Lab Duplicate	RN1361583	0.11	**0.16**	**1.4**	<0.01	0.078	<0.01	<0.01	<0.01	<0.02	<0.02	0.041	0.031	<0.01	0.21	0.017	0.022	<0.01	<0.01	<0.01	0.014	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.56**	2.083
MW2281	0939_MW2281_220725	25/07/2022	Primary	EM2214753	0.04	**1.9**	**0.82**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.11	0.07	<0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.72**	3.14
MW2284	0939_MW2284_220725	25/07/2022	Primary	EM2214753	**3.41**	**28.2**	**35.5**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.13	2.4	<0.02	10.4	3.07	1.89	<0.02	<0.02	<0.02	5.85	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**63.7**	96
MW2285	0939_MW2285_220725	25/07/2022	Primary	EM2214753	<0.01	**0.13**	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.19**	0.19
MW2286	0939_MW2286_220725	25/07/2022	Primary	EM2214753	<0.01	**0.4**	**0.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.7**	0.79
MW2325	0669_MW2325_220726	26/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2358	0939_MW2358_220725	25/07/2022	Primary	EM2214753	**2.37**	**44**	**64.7**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	9.27	3.07	<0.02	14	4.42	2.1	<0.02	<0.02	<0.02	8.95	1.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**109**	154
MW2394	0939_MW2394_220725	25/07/2022	Primary	EM2214753	<0.01	0.06	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.1**	0.1
MW2411	0939_MW2411_220725	25/07/2022	Primary	EM2214753	<0.01	**0.17**	**0.43**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.06	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.6**	1.3
MW2490	0939_MW2490_220726	26/07/2022	Primary	EM2214753	**77**	**1950**	**1290**	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.84	186	33.3	<0.34	170	110	27	<0.34	<0.34	<0.34	82.3	6	<0.84	<0.84	<0.84	<0.84	<0.34	<0.34	<0.34	**3240**	3930
MW2499	0939_MW2499_220726	26/07/2022	Primary	EM2214753	**16.1**	**2560**	**117**	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	13.4	6.49	0.43	28.8	33.7	3.39	0.17	<0.03	0.08	10.6	2.1	<0.08	<0.08	<0.08	<0.08	<0.03	0.32	<0.03	**2680**	2790
MW2501	0939_MW2501_220726	26/07/2022	Primary	EM2214753	0.01	**0.15**	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.21**	0.27
MW2528	0939_MW2528_220726	26/07/2022	Primary	EM2214753	**1.66**	**36.4**	**11.3**	<0.05	0.15	0.12	<0.05	<0.02	<0.02	<0.05	1.69	6.68	0.21	11.2	1.18	0.96	0.22	<0.02	0.09	2.78	6.6	<0.05	<0.05	<0.05	<0.05	<0.02	0.11	<0.02	**47.7**	81.4
MW4001	0939_MW4001_220725	25/07/2022	Primary	EM2214753	0.04	**0.88**	**0.27**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.04	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.15**	1.32
MW4003	0939_MW4003_220728	28/07/2022	Primary	EM2214753	0.22	**8.76**	**3.72**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.4	0.1	<0.02	0.47	0.26	0.1	<0.02	<0.02	<0.02	0.32	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**12.5**	14.4
MW4009	0939_MW4009_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4013	0939_MW4013_220727	27/07/2022	Primary	EM2214753	0.12	**3.72**	**2.33**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.24	0.12	<0.02	0.32	0.11	0.06	<0.02	<0.02	<0.02	0.25	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**6.05**	7.27
MW4015	0939_MW4015_220728	28/07/2022	Primary	EM2214753	0.16	**6.64**	**4.72**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.4	0.09	<0.02	0.49	0.23	0.07	<0.02	<0.02	<0.02	0.26	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**11.4**	13.1
	0939_QC111_220728		Intra-Lab Duplicate	EM2214753	0.17	**6.53**	**4.89**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.41	0.08	<0.02	0.48	0.23	0.07	<0.02	<0.02	<0.02	0.28	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**11.4**	13.1
	0939_QC211_220728		Inter-Lab Duplicate	RN1361583	0.15	**5.3**	**3.8**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.39	0.097	<0.01	0.51	0.19	0.058	<0.01	<0.01	<0.01	0.29	0.094	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**9.1**	10.88
MW4020	0939_MW4020_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	0939_MW4021_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	0939_MW4022_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC107_220727		Intra-Lab Duplicate	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC207_220727		Inter-Lab Duplicate	RN1361583	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**<0.01**	<0.01
MW4023	0939_MW4023_220727	27/07/2022	Primary	EM2214753	0.04	**0.74**	**0.86**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.14	0.09	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.6**	2.01

Table T2: Groundwater Analytical Results

					Per- and Poly-fluoroalkyl Substances																																
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
PFAS NEMP 2020 Drinking Water					**0.56**	**0.07**	**0.07**																											**0.07**	
Location	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report**																															
MW4024	0939_MW4024_220727	27/07/2022	Primary	EM2214753	0.02	**0.44**	**0.56**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1**	1.18
	0939_QC108_220727		Intra-Lab Duplicate	EM2214753	0.02	**0.42**	**0.54**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.09	0.04	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.96**	1.2
	0939_QC208_220727		Inter-Lab Duplicate	RN1361583	0.023	**0.45**	**0.56**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	0.041	<0.02	<0.01	0.087	0.03	0.011	<0.01	<0.01	<0.01	0.026	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**1.01**	1.23
MW4027	0939_MW4027_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4035	0939_MW4035_220728	28/07/2022	Primary	EM2214753	0.32	**12.8**	**6.06**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.64	0.14	<0.02	0.74	0.46	0.14	<0.02	<0.02	<0.02	0.72	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**18.9**	22
MW4037	0939_MW4037_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4041	0939_MW4041_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4045	0939_MW4045_220725	25/07/2022	Primary	EM2214753	<0.01	**0.21**	**0.08**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.29**	0.29
MW4048	0939_MW4048_220725	25/07/2022	Primary	EM2214753	0.04	**0.6**	**0.32**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.92**	1.17
MW4052	0939_MW4052_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4053	0939_MW4053_220725	25/07/2022	Primary	EM2214753	0.03	**0.81**	**0.37**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**1.18**	1.32
MW4055	0939_MW4055_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4057	0939_MW4057_220728	28/07/2022	Primary	EM2214753	0.01	0.04	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.1**	0.14
	0939_QC110_220728		Intra-Lab Duplicate	EM2214753	0.01	0.05	**0.07**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.12**	0.16
	0939_QC210_220728		Inter-Lab Duplicate	RN1361583	<0.01	0.055	0.044	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	**0.099**	0.12
MW4058	0939_MW4058_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	0939_MW4059_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	0939_MW4060_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4061	0939_MW4061_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	0939_MW4064_220728	28/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	0939_MW4065_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4066	0939_MW4066_220728	28/07/2022	Primary	EM2214753	0.01	0.04	**0.16**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.2**	0.3
MW4068	0939_MW4068_220725	25/07/2022	Primary	EM2214753	0.12	**5.91**	**2.39**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	0.06	<0.02	0.27	0.2	0.05	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**8.3**	9.5
MW4069	0939_MW4069_220725	25/07/2022	Primary	EM2214753	0.05	**1.49**	**0.74**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.05	<0.02	0.14	0.04	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**2.23**	2.71
MW4070	0939_MW4070_220725	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4071	0939_MW4071_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4072	0939_MW4072_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4073	0939_MW4073_220728	28/07/2022	Primary	EM2214753	0.04	0.06	**0.26**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.32**	0.49
MW4074	0939_MW4074_220725	25/07/2022	Primary	EM2214753	<0.01	**0.15**	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.15**	0.15
MW4075	0939_MW4075_220725	25/07/2022	Primary	EM2214753	0.02	**0.1**	**0.3**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.4**	0.6
MW4076	0939_MW4076_220728	28/07/2022	Primary	EM2214753	<0.01	0.02	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW4077	0939_MW4077_220727	27/07/2022	Primary	EM2214753	<0.01	0.04	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW4078	0939_MW4078_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4079	0939_MW4079_220728	28/07/2022	Primary	EM2214753	0.02	0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.07**	0.14
MW4218	0939_MW4218_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4219	0939_MW4219_220728	28/07/2022	Primary	EM2214753	<0.01	**0.18**	**0.16**	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	**0.34**	0.38
MW4220	0939_MW4220_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	0939_MW4221_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	0939_MW4222_220725	25/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	0939_MW4223_220729	29/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Notes:

Denotes new exceedence of human health screening criteria

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

LOR: Limit of reporting

µg/L: micrograms per Litre

Table T3: Surface Water Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV	
SW003	25/07/2022	7.30	219	131	4.74	10.7	9.4	Clear, No odour. Approximately 5 m wide, 6 m high. Unlined drain/creek with vegetation.
SW006	24/07/2022	7.06	267	160	2.56	11.7	52.7	Clear, No odour. Approximately 3-5 m wide. Unlined drain with vegetation. Flows south west.
SW009	27/07/2022	8.34	442	265	7.80	12.1	-17.1	Clear, No odour. Unlined drain/creek with vegetation, goes under road bridge. Approximtately 15 m wide at the widest, 1-2 m high banks.
SW010	28/07/2022	8.32	233	140	8.25	14.6	1.8	Yellowish Brown, No odour. Approximately 3-5 m drain meets the dam. Unlined drain with vegetation. Flows south west into dam.
SW011	28/07/2022	7.50	1196	718	7.50	12.4	23.5	Light Olive Brown, No odour. Approximately 10 m wide by 5 m high. Water draining from wetlands. Drains into three pipes, terraced drop off to drains.
SW012	26/07/2022	8.23	353	212	8.90	9.1	25	Clear, No odour. Unlined drain/creek with vegetation, approximately 1-2 m wide. Flows south east.
SW017	25/07/2022	7.59	320	192	5.27	10.5	-23.9	Clear, No odour. Approximately 5 m wide by 3 m high unlined drain with vegetation.
SW018	26/07/2022	8.20	335	201	8.04	11.8	-62.5	Pale yellow, Low turbidity, No odour. Approximately 6-8 m wide, banks gentle slope to 2 m high. Unlined drain with vegetation. Flows south.
SW019	26/07/2022	7.82	155	93	4.34	13.1	-137.6	Light Olive Brown, Medium turbidity, No odour. Approximately 2 m wide by 2 m high concrete drian, vegetation in drain. No apparent flow.
SW021	26/07/2022	7.95	426	255	6.84	12.1	-192.1	Pale Yellow, Medium turbidity, No odour. Approximately 10-15 m wide unlined reed filled drain, no apparent flow direction.
SW028	27/07/2022	9.23	234	140	14.50	12.7	-53.1	Light Olive Brown, Turbid, No odour.
SW029	27/07/2022	8.62	768	461	9.18	13.5	-112	Brown Green, Turbid, No odour. Approximately 8-10 m wide, banks sloped 4-5 m high. Concrete drain with vegetation on banks.
SW032	28/07/2022	8.32	661	397	2.58	10.3	-75.6	Light Olive Brown, Low turbidity, No odour. Approximately 4 m wide, banks slope gently 6 m high. Unlined drain with vegetation. No apparent flow direction.
SW033	28/07/2022	8.47	198	119	8.27	17.7	-32	Yellow, No odour. Approximately 7 m wide by 5 m high banks. Unlined. Evidence of recent excavation, tyre tracks in drain, soil stockpiled on banks. No apparent flow.
SW037	22/07/2022	Dry						
SW050	26/07/2022	8.05	341	204	8.32	13.6	-93.8	Clear, No odour. End of drain catchment in bird netted area, reeds and vegetation. No apparent flow direction.
SW054	29/07/2022	7.48	269	161	9.00	13.1	-30.2	Clear, No odour. Bird netting area, approx 6-8 m wide, reeds and vegetation.
SW058	28/07/2022	8.12	230	138	9.25	14.0	9.5	Light Olive Brown, Low turbidity, No odour. At outlet/inlet of dam into the Kaurna Park wetlands. No apparent flow direction.
SW059	28/07/2022	8.38	180	108	9.36	13.0	-137.8	Milky Grey, Low turbidity, No odour. Approximately 1 m wide by 2 m high. Pollutant trap at drain. No apparent flow direction, drain orientated east-west. Oil-sheen at surface.
SW062	28/07/2022	7.58	448	269	8.89	13.5	-21.6	Yellowish Brown, No odour. Approximately 5 m wide, banks to 3 m high. Vegetated, unlined drain. Algae close to banks. Flows south west.
SW078	28/07/2022	7.35	1347	808	3.13	14.9	-125.7	Clear, No odour. Approximately 3 m wide by 4 m high banks. Concrete lined, vegetation at banks. Flows south into wetland.

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

Table T4: Surface Water Analytical Results

					Per- and Poly-fluoroalkyl Substances																																		
					Perfluorooctanoic Acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.1	0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.01	0.01
Ecological Receptors	**PFAS NEMP FW 95% Species Protection**				**220**	**0.13**																															
Human Health Receptors	*PFAS NEMP (2020) PFAS Recreational Water*				*10*	*2*	*2*																													*2*	
Location	**Field ID**	**Sample Date**	**Sample Type**	**Lab Report**																																	
SW003	0939_SW003_220726	26/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC104_220726		Intra-Lab Duplicate	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC204_220726		Inter-Lab Duplicate	RN1361583	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
SW006	0939_SW006_220725	25/07/2022	Primary	EM2214753	<0.01	0.09	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.11	0.11
SW009	0939_SW009_220727	27/07/2022	Primary	EM2214753	<0.01	0.07	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
SW010	0939_SW010_220728	28/07/2022	Primary	EM2214753	<0.01	0.05	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
	0939_QC112_220728		Intra-Lab Duplicate	EM2214753	<0.01	0.05	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
	0939_QC212_220728		Inter-Lab Duplicate	RN1361583	<0.01	0.059	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	0.078	0.078
SW011	0939_SW011_220728	28/07/2022	Primary	EM2214753	0.02	**0.27**	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.7	0.88
SW012	0939_SW012_220727	27/07/2022	Primary	EM2214753	<0.01	0.04	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
SW017	0939_SW017_220726	26/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW018	0939_SW018_220726	26/07/2022	Primary	EM2214753	<0.01	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
SW019	0939_SW019_220726	26/07/2022	Primary	EM2214753	0.07	**1.45**	0.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.03	<0.02	0.12	0.05	0.04	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.97	2.45
SW021	0939_SW021_220726-2	26/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW028	0939_SW028_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW029	0939_SW029_220727	27/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC109_220727		Intra-Lab Duplicate	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC209_220727		Inter-Lab Duplicate	RN1361583	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
SW032	0939_SW032_220728	28/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW033	0939_SW033_220728	28/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW050	0939_SW050_220726	26/07/2022	Primary	EM2214753	<0.01	0.06	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
SW054	0939_SW054_220726	26/07/2022	Primary	EM2214753	<0.01	0.06	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
SW058	0939_SW058_220728	28/07/2022	Primary	EM2214753	<0.01	0.06	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
SW059	0939_SW059_220728	28/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
SW062	0939_SW062_220728	28/07/2022	Primary	EM2214753	<0.01	0.03	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
SW078	0939_SW078_220728	28/07/2022	Primary	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC113_220728		Intra-Lab Duplicate	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
	0939_QC213_220728		Inter-Lab Duplicate	RN1361583	<0.01	<0.02	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.02	<0.05	<0.02	<0.05	<0.01	<0.01	<0.01	0.015	0.015

Notes:

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

LOR: Limit of reporting

µg/L: micrograms per Litre

Appendix C

Data Validation Reports

AECOM Imagine it. Delivered.

DATA VALIDATION REPORT; GROUNDWATER

Project Manager:	[redacted]	**Validation by:**	[redacted]
Project number:	60612561	**Date:** 30/08/2022	
Site:	RAAF Base Edinburgh		
Matrix:	Water	**Data Verified by:**	[redacted]
Laboratory:	ALS; NMI	**Date:** 1/09/2022	
Lab reference:	EM2214753; RN1361583		

Key Findings:

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

- Elevated RPDs should be taken into consideration when using data for PFPeS, PFHxA, PFHpS, PFHpA, PFDS, PFBA, FOSA and Sum of PFAS quantitatively.
- Elevated RPDs should be taken into consideration when interpreting data for PFOA, PFOS, PFHxS and PFHxS+PFOS where close to guidelines.

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

Comments	
1. Frequency of Laboratory QA/QC	Laboratory duplicate samples were not reported for PFAS in primary batch EM2214753. The precision of the data can be assessed as acceptable based on intra- and inter-laboratory duplicate RPDs which were reported at the required frequencies and within control limits. Matrix spikes were not reported for PFAS in primary batch EM2214753. The accuracy of the data can be assessed as acceptable based on method blanks, LCS and surrogate spike recoveries (which were reported at or above the required frequencies and within control limits).
2. Field Blank	Field blank samples were collected by erroneously not analysed. The trip blanks collected every day during the sampling program, as well as the numerous groundwater and surface water locations that reported concentrations of all PFAS analytes below the laboratory LOR can be used to assess cross contamination. The decontamination methods are assessed as acceptable and the potential for cross contamination is considered unlikely based on the following: • All sampling equipment was either dedicated, disposable or decontaminated with a solution of water and Liquinox between sampling locations • The decontamination methods and field staff were consistent over the course of the sampling event • Concentrations of all analytes were reported below the LOR in the rinsate samples analysed • Laboratory results are consistent with field observations and no evidence of cross contamination is apparent • Numerous samples from surface water and groundwater reported all PFAS concentrations below the laboratory LOR.
3. Trip Blank	Trip blanks were erroneously not collected during the sampling program. As the available rinsate blank samples collected over the sampling program reported all concentrations of PFAS below the laboratory LOR, cross contamination during transport to the laboratory is assessed to not have occurred.
4. Field intra-laboratory duplicate RPDs	Field intra-laboratory duplicate RPDs were reported within control limits, with the exception of FOSA as show in the RPD table and outlined below (the sample with the higher concentration is in bold). - **0939_MW2116_220726** and 0939_QC105_220726 (40.5%), As there are no adopted guideline values for FOSA the elevated RPD is not expected to affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively.

2 of 3

Comments	
5. Field inter-laboratory duplicate RPDs	Field inter-laboratory RPDs were reported within control limits, with the exception of PFOS, PFHxS, PFOA, PFPeS, PFHxA, PFHpS, PFHpA, PFDS, PFBA, FOSA, PFHxS+PFOS and Sum of PFAS as show in the RPD table and outlined below (the sample with the higher concentration is in bold). - 0939_MW2162_220725 and **0939_QC203_220725** for PFOS (72%) and PFHxS (74%) - **0939_MW2116_220726** and 0939_QC205_220726 for PFOA (43%), PFOS (53%), PFHxS (44%), PFPeS (46%), PFHxA (31%), PFHpS (60%), PFHpA (36%), PFDS (199%), PFBA (80%), FOSA (85%), PFHxS+PFOS (48%), Sum of PFAS (45%) - **0939_MW2218_220726** and 0939_QC206_220726 for PFOS (64%) - 0939_MW4022_220727 and **0939_QC208_220727** for PFOS (191%) and PFHxS (193%) As there are no adopted guideline values for PFPeS, PFHxA, PFHpS, PFHpA, PFDS, PFBA, FOSA and Sum of PFAS the elevated RPD is not expected to affect interpretation of results against guidelines. However, the elevated RPDs should be taken into consideration when using the data quantitatively. The apparent lack of precision should be taken into consideration when interpreting concentrations for PFOA, PFOS, PFHxS and PFHxS+PFOS close to guidelines.
6. Other comments	**General Comments** ALS laboratory noted the following: • EP231X: Particular samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.

3 of 3

Appendix D

Chain of Custody

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: / ES2019AECOMAU003 0

EMAIL REPORTS TO: catherine.hansen@aecom.com, DERP.labreports@esdat.com.au, lucy.muir@aecom.com, georgia.matthews@aecom.com, carina.jakobi@aecom.com

EMAIL INVOICES TO: aecom.anz@aecom.com

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0939_MW2112_220725		25/07/2022 09:38 AM	Water	ALS: 2 Non ALS: 0	No	X		
002	0939_SW006_220725		25/07/2022 09:47 AM	Water	ALS: 2 Non ALS: 0	No	X		
003	0939_MW2137_220725		25/07/2022 10:07 AM	Water	ALS: 2 Non ALS: 0	No	X		
004	0939_MW2185_220725		25/07/2022 10:42 AM	Water	ALS: 2 Non ALS: 0	No	X		
005	0939_MW2184_220725		25/07/2022 10:40 AM	Water	ALS: 2 Non ALS: 0	No	X		
006	0939_MW2281_220725		25/07/2022 10:43 AM	Water	ALS: 2 Non ALS: 0	No	X		
007	0939_MW2286_220725		25/07/2022 10:45 AM	Water	ALS: 2 Non ALS: 0	No	X		
008	0939_MW2182_220725		25/07/2022 11:30 AM	Water	ALS: 2 Non ALS: 0	No	X		
009	0939_MW2285_220725		25/07/2022 11:55 AM	Water	ALS: 2 Non ALS: 0	No	X		

Environmental Division
Melbourne
Work Order Reference
EM2214753

Telephone : +61-3-8549 9600

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0939_MW2275_220725		25/07/2022 11:59 AM	Water	ALS: 2 Non ALS: 0	No	X		
011	0939_QC101_220725		25/07/2022 12:08 PM	Water	ALS: 2 Non ALS: 0	No	X		
012	0939_QC201_220725	Please forward to NMI	25/07/2022 12:09 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
013	0939_MW2183_220725		25/07/2022 11:28 AM	Water	ALS: 2 Non ALS: 0	No	X		
014	0939_MW2180_220725		25/07/2022 12:10 PM	Water	ALS: 2 Non ALS: 0	No	X		
015	0939_MW2177_220725		25/07/2022 12:21 PM	Water	ALS: 2 Non ALS: 0	No	X		
016	0939_MW2175_220725		25/07/2022 12:34 PM	Water	ALS: 2 Non ALS: 0	No	X		
017	0939_MW2176_220725		25/07/2022 12:38 PM	Water	ALS: 2 Non ALS: 0	No	X		
018	0939_MW2173_220725		25/07/2022 12:49 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free Ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0939_MW2172_220725		25/07/2022 12:53 PM	Water	ALS: 2 Non ALS: 0	No	X		
020	0939_MW2145_220725		25/07/2022 01:16 PM	Water	ALS: 2 Non ALS: 0	No	X		
021	0939_MW2129_220725		25/07/2022 01:14 PM	Water	ALS: 2 Non ALS: 0	No	X		
022	0939_MW2169_220725		25/07/2022 01:24 PM	Water	ALS: 2 Non ALS: 0	No	X		
023	0939_MW2139_220725		25/07/2022 01:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
024	0939_MW2166_220725		25/07/2022 01:48 PM	Water	ALS: 2 Non ALS: 0	No	X		
025	0939_MW2358_220725		25/07/2022 02:03 PM	Water	ALS: 2 Non ALS: 0	No	X		
026	0939_MW2126_220725		25/07/2022 02:07 PM	Water	ALS: 2 Non ALS: 0	No	X		
027	0939_QC102_220725		25/07/2022 02:14 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0939_QC202_220725	Please forward to NMI	25/07/2022 02:16 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
029	0939_MW2411_220725		25/07/2022 02:21 PM	Water	ALS: 2 Non ALS: 0	No	X		
030	0939_MW2394_220725		25/07/2022 02:50 PM	Water	ALS: 2 Non ALS: 0	No	X		
031	0939_MW2162_220725		25/07/2022 03:02 PM	Water	ALS: 2 Non ALS: 0	No	X		
032	0939_QC103_220725		25/07/2022 03:02 PM	Water	ALS: 2 Non ALS: 0	No	X		
033	0939_QC203_220725	Please forward to NMI	25/07/2022 03:03 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
034	0939_MW2202_220725		25/07/2022 03:24 PM	Water	ALS: 2 Non ALS: 0	No	X		
035	0939_MW2201_220725		25/07/2022 03:27 PM	Water	ALS: 2 Non ALS: 0	No	X		
036	0939_MW2203_220725		25/07/2022 03:39 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0939_MW2197_220725		25/07/2022 03:52 PM	Water	ALS: 2 Non ALS: 0	No	X		
038	0939_MW2193_220725		25/07/2022 04:11 PM	Water	ALS: 2 Non ALS: 0	No	X		
039	0939_MW2194_220725		25/07/2022 04:24 PM	Water	ALS: 2 Non ALS: 0	No	X		
040	0939_MW2150_220725		25/07/2022 04:44 PM	Water	ALS: 2 Non ALS: 0	No	X		
041	0939_MW2189_220725		25/07/2022 04:59 PM	Water	ALS: 2 Non ALS: 0	No	X		
042	0939_QC301_220725		26/07/2022 08:45 AM	Water	ALS: 2 Non ALS: 0	No	X		
043	0939_QC401_220725		25/07/2022 05:30 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
044	0939_QC302_220725		25/07/2022 04:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
045	0939_QC402_220725		26/07/2022 09:22 AM	Water	ALS: 2 Non ALS: 0	Yes	-		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0939_SW017_220726		26/07/2022 09:15 AM	Water	ALS: 2 Non ALS: 0	No	X		
047	0939_QC104_220726		26/07/2022 09:19 AM	Water	ALS: 2 Non ALS: 0	No	X		
048	0939_QC204_220726	Please forward to NMI	26/07/2022 09:19 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
049	0939_SW003_220726		26/07/2022 09:30 AM	Water	ALS: 2 Non ALS: 0	No	X		
050	0939_MW2149_220726		26/07/2022 10:04 AM	Water	ALS: 2 Non ALS: 0	No	X		
051	0939_MW2499_220726		26/07/2022 10:12 AM	Water	ALS: 2 Non ALS: 0	No	X		
052	0939_MW2200_220726		26/07/2022 10:52 AM	Water	ALS: 2 Non ALS: 0	No	X		
053	0939_MW2270_220726		26/07/2022 10:59 AM	Water	ALS: 2 Non ALS: 0	No	X		
054	0939_MW2120_220726		26/07/2022 11:00 AM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

ALS COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0939_MW2116_220726		26/07/2022 12:10 PM	Water	ALS: 2 Non ALS: 0	No	X		
056	0939_QC105_220726		26/07/2022 12:11 PM	Water	ALS: 2 Non ALS: 0	No	X		
057	0939_QC205_220726	Please forward to NMI	26/07/2022 12:11 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
058	0939_SW018_220726		26/07/2022 12:16 PM	Water	ALS: 2 Non ALS: 0	No	X		
059	0939_MW2490_220726		26/07/2022 12:23 PM	Water	ALS: 2 Non ALS: 0	No	X		
060	0939_MW2130_220726		26/07/2022 12:35 PM	Water	ALS: 2 Non ALS: 0	No	X		
061	0939_MW2209_220726		26/07/2022 01:22 PM	Water	ALS: 2 Non ALS: 0	No	X		
062	0939_SW019_220726		26/07/2022 01:35 PM	Water	ALS: 2 Non ALS: 0	No	X		
063	0939_MW2114_220726		26/07/2022 01:44 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS | **ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0939_MW2157_220726		26/07/2022 01:51 PM	Water	ALS: 2 Non ALS: 0	No	X		
065	0669_MW2528_220726		26/07/2022 02:07 PM	Water	ALS: 2 Non ALS: 0	No	X		
066	0939_MW2218_220726		26/07/2022 02:20 PM	Water	ALS: 2 Non ALS: 0	No	X		
067	0939_QC205_220726	Please forward to NMI	26/07/2022 02:26 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
068	0939_MW2134_220726		26/07/2022 02:37 PM	Water	ALS: 2 Non ALS: 0	No	X		
069	0939_MW2501_220726		26/07/2022 02:43 PM	Water	ALS: 2 Non ALS: 0	No	X		
070	0939_SW050_220726		26/07/2022 03:00 PM	Water	ALS: 2 Non ALS: 0	No	X		
071	0939_SW054_220726		26/07/2022 03:03 PM	Water	ALS: 2 Non ALS: 0	No	X		
072	0939_MW2216_220726		26/07/2022 03:32 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: / ES2019AECOMAU0030

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0939_MW2135_220726		26/07/2022 03:35 PM	Water	ALS: 2 Non ALS: 0	No	X		
074	0939_QC304_220726		26/07/2022 03:43 PM	Water	ALS: 2 Non ALS: 0	No	X		
075	0939_QC404_220726		26/07/2022 03:39 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
076	0939_MW2188_220725		25/07/2022 04:54 PM	Water	ALS: 0 Non ALS: 0	No	X		
077	0939_MW2210_220726		26/07/2022 12:55 PM	Water	ALS: 0 Non ALS: 0	No	X		
078	0939_MW2131_220726		26/07/2022 01:01 PM	Water	ALS: 0 Non ALS: 0	No	X		
079	0939_MW2528_220726		26/07/2022 01:28 PM	Water	ALS: 0 Non ALS: 0	No	X		
080	0939_SW021_220726		26/07/2022 02:01 PM	Water	ALS: 0 Non ALS: 0	No	X		
081	0939_QC105_220726		26/07/2022 02:25 PM	Water	ALS: 0 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO [redacted]

EMAIL INVOICES TO

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0939_MW2188_220725-1		25/07/2022 04:54 PM	Water	ALS: 0 Non ALS: 0	No	X		
083	0939_MW2188_220725-2		25/07/2022 04:54 PM	Water	ALS: 0 Non ALS: 0	No	X		
084	0939_MW2188_220725-3		25/07/2022 04:54 PM	Water	ALS: 0 Non ALS: 0	No	X		
085	0939_MW2188_220725-4		25/07/2022 04:54 PM	Water	ALS: 0 Non ALS: 0	No	X		
086	0939_MW2188_220725-5		25/07/2022 04:54 PM	Water	ALS: 0 Non ALS: 0	No	X		
087	0939_MW2210_220726-1		26/07/2022 12:55 PM	Water	ALS: 0 Non ALS: 0	No	X		
088	0939_MW2131_220726-1		26/07/2022 01:01 PM	Water	ALS: 0 Non ALS: 0	No	X		
089	0939_MW2528_220726-1		26/07/2022 01:28 PM	Water	ALS: 0 Non ALS: 0	No	X		
090	0939_SW021_220726-1		26/07/2022 02:01 PM	Water	ALS: 0 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0939_MW2188_220725-6		25/07/2022 04:54 PM	Water	ALS: 2 Non ALS: 0	No	X		
092	0939_MW2210_220726-2		26/07/2022 12:55 PM	Water	ALS: 2 Non ALS: 0	No	X		
093	0939_MW2131_220726-2		26/07/2022 01:01 PM	Water	ALS: 2 Non ALS: 0	No	X		
094	0939_MW2528_220726-2		26/07/2022 01:28 PM	Water	ALS: 2 Non ALS: 0	No	X		
095	0939_SW021_220726-2		26/07/2022 02:01 PM	Water	ALS: 2 Non ALS: 0	No	X		
096	0939_QC105_220726-1		26/07/2022 02:25 PM	Water	ALS: 2 Non ALS: 0	No	X		
097	0939_SW012_220727		27/07/2022 09:18 AM	Water	ALS: 2 Non ALS: 0	No	X		
098	0939_MW4013_220727		27/07/2022 09:20 AM	Water	ALS: 2 Non ALS: 0	No	X		
099	0939_MW4061_220727		27/07/2022 09:47 AM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE: / ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
100	0939_MW4065_220727		27/07/2022 09:57 AM	Water	ALS: 2 Non ALS: 0	No	X		
101	0939_MW4021_220727		27/07/2022 10:12 AM	Water	ALS: 2 Non ALS: 0	No	X		
102	0939_MW4020_220727		27/07/2022 10:24 AM	Water	ALS: 2 Non ALS: 0	No	X		
103	0939_MW4009_220727		27/07/2022 10:47 AM	Water	ALS: 2 Non ALS: 0	No	X		
104	0939_MW4022_220727		27/07/2022 10:43 AM	Water	ALS: 2 Non ALS: 0	No	X		
105	0939_QC107_220727		27/07/2022 10:42 AM	Water	ALS: 2 Non ALS: 0	No	X		
106	0939_QC207_220727	Please forward to NMI	27/07/2022 10:42 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
107	0939_QC108_220727		27/07/2022 11:00 AM	Water	ALS: 2 Non ALS: 0	No	X		
108	0939_MW4024_220727		27/07/2022 11:04 AM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
109	0939_QC208_220727	Please forward to NMI	27/07/2022 11:02 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
110	0939_MW4023_220727		27/07/2022 11:07 AM	Water	ALS: 2 Non ALS: 0	No	X		
111	0939_MW4060_220727		27/07/2022 11:11 AM	Water	ALS: 2 Non ALS: 0	No	X		
112	0939_MW4077_220727		27/07/2022 11:39 AM	Water	ALS: 2 Non ALS: 0	No	X		
113	0939_MW4059_220727		27/07/2022 11:43 AM	Water	ALS: 2 Non ALS: 0	No	X		
114	0939_MW4218_220727		27/07/2022 01:00 PM	Water	ALS: 2 Non ALS: 0	No	X		
115	0939_SW029_220727		27/07/2022 01:14 PM	Water	ALS: 2 Non ALS: 0	No	X		
116	0939_QC109_220727		27/07/2022 01:13 PM	Water	ALS: 2 Non ALS: 0	No	X		
117	0939_QC209_220727	Please forward to NMI	27/07/2022 01:14 PM	Water	ALS: 2 Non ALS: 0	Yes	-		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
118	0939_SW028_220727		27/07/2022 01:18 PM	Water	ALS: 2 Non ALS: 0	No	X		
119	0939_MW2159_220727		27/07/2022 01:27 PM	Water	ALS: 2 Non ALS: 0	No	X		
120	0939_MW4220_220727		27/07/2022 02:08 PM	Water	ALS: 2 Non ALS: 0	No	X		
121	0939_MW4052_220727		27/07/2022 02:34 PM	Water	ALS: 2 Non ALS: 0	No	X		
122	0939_MW4072_220727		27/07/2022 02:47 PM	Water	ALS: 2 Non ALS: 0	No	X		
123	0939_MW4041_220727		27/07/2022 02:58 PM	Water	ALS: 2 Non ALS: 0	No	X		
124	0939_MW4037_220727		27/07/2022 03:04 PM	Water	ALS: 2 Non ALS: 0	No	X		
125	0939_SW009_220727		27/07/2022 03:23 PM	Water	ALS: 2 Non ALS: 0	No	X		
126	0939_MW4055_220727		27/07/2022 03:49 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
127	0939_QC303_220727		27/07/2022 04:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
128	0939_QC403_220727		27/07/2022 04:32 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
129	0939_MW4053_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
130	0939_MW4070_220725		27/07/2022 04:36 PM	Water	ALS: 2 Non ALS: 0	No	X		
131	0939_MW2272_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
132	0939_MW4068_220725		26/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
133	0939_MW4048_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
134	0939_MW4058_220725		26/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
135	0939_MW2148_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER: [redacted]

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO: [redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
136	0939_MW2158_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
137	0939_MW4221_220725		27/07/2022 04:43 PM	Water	ALS: 2 Non ALS: 0	No	X		
138	0939_MW4078_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
139	0939_MW2284_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
140	0939_MW4069_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
141	0939_MW4222_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
142	0939_MW4045_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
143	0939_MW4075_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
144	0939_MW4074_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER [redacted]
PRIMARY SAMPLER:

CONTACT PH:
QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:
/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
145	0939_MW4001_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
146	0939_MW4071_220725		25/07/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	X		
147	0939_MW4079_220726		26/07/2022 09:12 AM	Water	ALS: 2 Non ALS: 0	No	X		
148	0939_MW4073_220728		28/07/2022 09:11 AM	Water	ALS: 2 Non ALS: 0	No	X		
149	0939_MW4066_220728		28/07/2022 09:12 AM	Water	ALS: 2 Non ALS: 0	No	X		
150	0939_MW4057_220728		28/07/2022 09:14 AM	Water	ALS: 2 Non ALS: 0	No	X		
151	0939_QC110_220728		28/07/2022 09:14 AM	Water	ALS: 2 Non ALS: 0	No	X		
152	0939_QC210_220728	Please forward to NMI	28/07/2022 09:15 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
153	0939_MW4015_220728		28/07/2022 10:16 AM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) *COC#:* 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 8.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
154	0939_QC211_220728	Please forward to NMI	28/07/2022 10:20 AM	Water	ALS: 2 Non ALS: 0	Yes	-		
155	0939_QC111_220728		28/07/2022 10:20 AM	Water	ALS: 2 Non ALS: 0	No	X		
156	0939_MW4035_220728		28/07/2022 10:26 AM	Water	ALS: 2 Non ALS: 0	No	X		
157	0939_MW4003_220728		28/07/2022 10:32 AM	Water	ALS: 2 Non ALS: 0	No	X		
158	0939_MW4076_220728		28/07/2022 11:45 AM	Water	ALS: 2 Non ALS: 0	No	X		
159	0939_MW4064_220728		28/07/2022 11:45 AM	Water	ALS: 2 Non ALS: 0	No	X		
160	0939_MW4219_220728		28/07/2022 11:56 AM	Water	ALS: 2 Non ALS: 0	No	X		
161	0939_SW032_220728		28/07/2022 01:29 PM	Water	ALS: 2 Non ALS: 0	No	X		
162	0939_SW033_220728		28/07/2022 01:39 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

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

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
163	0939_SW010_220728		28/07/2022 01:39 PM	Water	ALS: 2 Non ALS: 0	No	X		
164	0939_QC112_220728		28/07/2022 01:40 PM	Water	ALS: 2 Non ALS: 0	No	X		
165	0939_QC212_220728	Please forward to NMI	28/07/2022 01:41 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
166	0939_SW058_220728		28/07/2022 01:41 PM	Water	ALS: 2 Non ALS: 0	No	X		
167	0939_SW011_220728		28/07/2022 02:23 PM	Water	ALS: 2 Non ALS: 0	No	X		
168	0939_SW078_220728		28/07/2022 02:21 PM	Water	ALS: 2 Non ALS: 0	No	X		
169	0939_QC113_220728		28/07/2022 02:22 PM	Water	ALS: 2 Non ALS: 0	No	X		
170	0939_QC213_220728	Please forward to NMI	28/07/2022 02:22 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
171	0939_SW059_220728		28/07/2022 02:25 PM	Water	ALS: 2 Non ALS: 0	No	X		

CHAIN OF CUSTODY

(ALS) COC#: 12765 *ALS Laboratory:* EM Melbourne

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: SA_0939_PFASOMP

SITE: SA_0939_PFASOMP

ORDER NO: 60612561 6.1

PROJECT MANAGER: [redacted]

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: SY/139/19 V3

SAMPLER MOBILE:

/ ES2019AECOMAU003 0

EMAIL REPORTS TO: [redacted]

EMAIL INVOICES TO:

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

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
172	0939_SW062_220728		28/07/2022 02:53 PM	Water	ALS: 2 Non ALS: 0	No	X		
173	0939_QC305_220728		29/07/2022 11:33 AM	Water	ALS: 2 Non ALS: 0	No	X		
174	0939_QC405_220728		28/07/2022 05:30 PM	Water	ALS: 2 Non ALS: 0	Yes	-		
175	0939_MW4223_220729		29/07/2022 10:32 AM	Water	ALS: 2 Non ALS: 0	No	X		
176	0939_MW4027_220727		27/07/2022 11:56 AM	Water	ALS: 0 Non ALS: 0	No	X		
177	0939_MW4027_220727-1		27/07/2022 11:56 AM	Water	ALS: 0 Non ALS: 0	No	X		
178	0939_MW4027_220727-2		27/07/2022 11:56 AM	Water	ALS: 2 Non ALS: 0	No	X		
179	0939_MW4027_220727	Compass app does not recognise bottles being scanned	01/08/2022 11:52 AM	Water	ALS: 0 Non ALS: 0	No	X		

ALSCompass
SAMPLING *Intelligence*

ALS

ALS Use Only

Custody Document for Submissions via ALS Compass App

[redacted]

Project: SA-0939. PFASamp **Client:** Department of Defence **Project Manag**
Phone:

ALS Compass COC Reference: 12765 **# Samples:** ~~192~~ 176 **Sampler:**
Phone:

Turnaround Requirements: Standard ✓ Urgent

Special Instructions: Have attached a copy of the coc as ALS compass seemed to glitch & add samples multiple times / removed bottle collection.

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
GM			[redacted]
Date / Time: 1/8/22	Date / Time:	Date / Time:	Date / Time: 2/8 13:05

AECon4122805
Due 12/8/22

Amended

AECOM PROJECT - CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT:	AECOM Australia Pty Ltd	LABORATORY:	NMI	All results to be provided in ESDAT format	FOR LABORATORY USE ONLY
ADDRESS:	Level 28, 91 King William St Adelaide SA 5000	ADDRESS:	105 Dahli Rd, North Ryde, NSW, 2113	[redacted]	
PHONE NO:	08 7223 5400	PHONE NO:	61294490111		
FAX NO:	08 7223 5499				
PROJECT NAME:	SA_0939_PFASOMP	PROJECT MANAGER:	[redacted]		
		SAMPLERS:	[redacted]	SIGNED:	
PROJECT NO/PURCHASE ORDER:	60612561 6.1				ANALYSIS REQUIRED

COMMENTS: SPECIAL HANDLING/STORAGE

N22014859

LAB ID	SITE	LOCATION	MATRIX	SAMPLE TYPE	SAMPLE ID	Date	CONTAINER TYPE AND PRESERVATIVE	FIELD FILTERED?	TOTAL NUMBER OF CONTAINERS	PFAS (28 analytes)				HOLD
	RAAF Base Edinburgh		Water	QAQC	0939_QC201_220725	25/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC202_220725	25/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC203_220725	25/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC204_220726	26/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC205_220726	26/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC206_220726	26/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC207_220727	27/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC208_220727	27/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC209_220727	27/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC210_220728	28/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC211_220728	28/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC212_220728	28/7/2022	PFAS Bottle	-	2	1				
	RAAF Base Edinburgh		Water	QAQC	0939_QC213_220728	28/7/2022	PFAS Bottle	-	2	1				
									TOTAL	13	0	0	0	0

Custody Seal ?	Y N NA	RELINQUISHED BY:	CHECKED:	CONTAINER TYPE AND PRESERVATIVE CODES
Samples Cold ?	Y N NA	DATE:	TIME:	P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar
Comments:		RECEIVED BY:	CHECKED:	S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS Sulphuric Acid Preserved Glass Bottle;
		DATE:	TIME:	Z = Zinc acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; O = Other

Appendix E

Laboratory Certificates

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2214753**		
Amendment	: **3**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	[redacted]	Contact	: [redacted]
Address		Address	:
E-mail	: [redacted]	E-mail	: [redacted]
Telephone	: ----	Telephone	:
Facsimile	: ----	Facsimile	:
Project	: SA_0939_PFASOMP	Page	: 1 of 6
Order number	: 60612561 6.1	Quote number	: ES2019AECOMAU0030 (SY/139/19 V3)
C-O-C number	: 12765	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: SA_0939_PFASOMP		
Sampler	: [redacted]		

Dates

Date Samples Received	: 02-Aug-2022 12:05	Issue Date	: 23-Aug-2022
Client Requested Due Date	: 08-Aug-2022	Scheduled Reporting Date	: **08-Aug-2022**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 4.5°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 148 / 143

General Comments

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

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2214753-001	25-Jul-2022 09:38	0939_MW2112_220725		✓
EM2214753-002	25-Jul-2022 09:47	0939_SW006_220725		✓
EM2214753-003	25-Jul-2022 10:07	0939_MW2137_220725		✓
EM2214753-004	25-Jul-2022 10:42	0939_MW2185_220725		✓
EM2214753-005	25-Jul-2022 10:40	0939_MW2184_220725		✓
EM2214753-006	25-Jul-2022 10:43	0939_MW2281_220725		✓
EM2214753-007	25-Jul-2022 10:45	0939_MW2286_220725		✓
EM2214753-008	25-Jul-2022 11:30	0939_MW2182_220725		✓
EM2214753-009	25-Jul-2022 11:55	0939_MW2285_220725		✓
EM2214753-010	25-Jul-2022 11:59	0939_MW2275_220725		✓
EM2214753-011	25-Jul-2022 12:08	0939_QC101_220725		✓
EM2214753-013	25-Jul-2022 11:28	0939_MW2183_220725		✓
EM2214753-014	25-Jul-2022 12:10	0939_MW2180_220725		✓
EM2214753-015	25-Jul-2022 12:21	0939_MW2177_220725		✓
EM2214753-016	25-Jul-2022 12:34	0939_MW2175_220725		✓
EM2214753-017	25-Jul-2022 12:38	0939_MW2176_220725		✓
EM2214753-018	25-Jul-2022 12:49	0939_MW2173_220725		✓
EM2214753-019	25-Jul-2022 12:53	0939_MW2172_220725		✓
EM2214753-020	25-Jul-2022 13:16	0939_MW2145_220725		✓
EM2214753-021	25-Jul-2022 13:14	0939_MW2129_220725		✓
EM2214753-022	25-Jul-2022 13:24	0939_MW2169_220725		✓
EM2214753-023	25-Jul-2022 13:30	0939_MW2139_220725		✓
EM2214753-024	25-Jul-2022 13:48	0939_MW2166_220725		✓
EM2214753-025	25-Jul-2022 14:03	0939_MW2358_220725		✓
EM2214753-026	25-Jul-2022 14:07	0939_MW2126_220725		✓
EM2214753-027	25-Jul-2022 14:14	0939_QC102_220725		✓
EM2214753-029	25-Jul-2022 14:21	0939_MW2411_220725		✓
EM2214753-030	25-Jul-2022 14:50	0939_MW2394_220725		✓
EM2214753-031	25-Jul-2022 15:02	0939_MW2162_220725		✓
EM2214753-032	25-Jul-2022 15:02	0939_QC103_220725		✓
EM2214753-034	25-Jul-2022 15:24	0939_MW2202_220725		✓
EM2214753-035	25-Jul-2022 15:27	0939_MW2201_220725		✓
EM2214753-036	25-Jul-2022 15:39	0939_MW2203_220725		✓
EM2214753-037	25-Jul-2022 15:52	0939_MW2197_220725		✓
EM2214753-038	25-Jul-2022 16:11	0939_MW2193_220725		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2214753-039	25-Jul-2022 16:24	0939_MW2194_220725		✓
EM2214753-040	25-Jul-2022 16:44	0939_MW2150_220725		✓
EM2214753-041	25-Jul-2022 16:59	0939_MW2189_220725		✓
EM2214753-042	26-Jul-2022 08:45	0939_QC301_220725		✓
EM2214753-043	25-Jul-2022 17:30	0939_QC401_220725	✓	
EM2214753-044	25-Jul-2022 16:30	0939_QC302_220725		✓
EM2214753-045	26-Jul-2022 09:22	0939_QC402_220725	✓	
EM2214753-046	26-Jul-2022 09:15	0939_SW017_220726		✓
EM2214753-047	26-Jul-2022 09:19	0939_QC104_220726		✓
EM2214753-049	26-Jul-2022 09:30	0939_SW003_220726		✓
EM2214753-050	26-Jul-2022 10:04	0939_MW2149_220726		✓
EM2214753-051	26-Jul-2022 10:12	0939_MW2499_220726		✓
EM2214753-052	26-Jul-2022 10:52	0939_MW2200_220726		✓
EM2214753-053	26-Jul-2022 10:59	0939_MW2270_220726		✓
EM2214753-054	26-Jul-2022 11:00	0939_MW2120_220726		✓
EM2214753-055	26-Jul-2022 12:10	0939_MW2116_220726		✓
EM2214753-056	26-Jul-2022 12:11	0939_QC105_220726		✓
EM2214753-058	26-Jul-2022 12:16	0939_SW018_220726		✓
EM2214753-059	26-Jul-2022 12:23	0939_MW2490_220726		✓
EM2214753-060	26-Jul-2022 12:35	0939_MW2130_220726		✓
EM2214753-061	26-Jul-2022 13:22	0939_MW2209_220726		✓
EM2214753-062	26-Jul-2022 13:35	0939_SW019_220726		✓
EM2214753-063	26-Jul-2022 13:44	0939_MW2114_220726		✓
EM2214753-064	26-Jul-2022 13:51	0939_MW2157_220726		✓
EM2214753-065	26-Jul-2022 14:07	0669_MW2325_220726		✓
EM2214753-066	26-Jul-2022 14:20	0939_MW2218_220726		✓
EM2214753-068	26-Jul-2022 14:37	0939_MW2134_220726		✓
EM2214753-069	26-Jul-2022 14:43	0939_MW2501_220726		✓
EM2214753-070	26-Jul-2022 15:00	0939_SW050_220726		✓
EM2214753-071	26-Jul-2022 15:03	0939_SW054_220726		✓
EM2214753-072	26-Jul-2022 15:32	0939_MW2216_220726		✓
EM2214753-073	26-Jul-2022 15:35	0939_MW2135_220726		✓
EM2214753-074	26-Jul-2022 15:43	0939_QC304_220726		✓
EM2214753-075	26-Jul-2022 15:39	0939_QC404_220726	✓	
EM2214753-091	25-Jul-2022 16:54	0939_MW2188_220725		✓
EM2214753-092	26-Jul-2022 12:55	0939_MW2210_220726		✓
EM2214753-093	26-Jul-2022 13:01	0939_MW2131_220726		✓
EM2214753-094	26-Jul-2022 13:28	0939_MW2528_220726		✓
EM2214753-095	26-Jul-2022 14:01	0939_SW021_220726-2		✓
EM2214753-096	26-Jul-2022 14:25	0939_QC106_220726-1		✓
EM2214753-097	27-Jul-2022 09:18	0939_SW012_220727		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2214753-098	27-Jul-2022 09:20	0939_MW4013_220727		✓
EM2214753-099	27-Jul-2022 09:47	0939_MW4061_220727		✓
EM2214753-100	27-Jul-2022 09:57	0939_MW4065_220727		✓
EM2214753-101	27-Jul-2022 10:12	0939_MW4021_220727		✓
EM2214753-102	27-Jul-2022 10:24	0939_MW4020_220727		✓
EM2214753-103	27-Jul-2022 10:47	0939_MW4009_220727		✓
EM2214753-104	27-Jul-2022 10:43	0939_MW4022_220727		✓
EM2214753-105	27-Jul-2022 10:42	0939_QC107_220727		✓
EM2214753-107	27-Jul-2022 11:00	0939_QC108_220727		✓
EM2214753-108	27-Jul-2022 11:04	0939_MW4024_220727		✓
EM2214753-110	27-Jul-2022 11:07	0939_MW4023_220727		✓
EM2214753-111	27-Jul-2022 11:11	0939_MW4060_220727		✓
EM2214753-112	27-Jul-2022 11:39	0939_MW4077_220727		✓
EM2214753-113	27-Jul-2022 11:43	0939_MW4059_220727		✓
EM2214753-114	27-Jul-2022 13:00	0939_MW4218_220727		✓
EM2214753-115	27-Jul-2022 13:14	0939_SW029_220727		✓
EM2214753-116	27-Jul-2022 13:13	0939_QC109_220727		✓
EM2214753-118	27-Jul-2022 13:18	0939_SW028_220727		✓
EM2214753-119	27-Jul-2022 13:27	0939_MW2159_220727		✓
EM2214753-120	27-Jul-2022 14:08	0939_MW4220_220727		✓
EM2214753-121	27-Jul-2022 14:34	0939_MW4052_220727		✓
EM2214753-122	27-Jul-2022 14:47	0939_MW4072_220727		✓
EM2214753-123	27-Jul-2022 14:58	0939_MW4041_220727		✓
EM2214753-124	27-Jul-2022 15:04	0939_MW4037_220727		✓
EM2214753-125	27-Jul-2022 15:23	0939_SW009_220727		✓
EM2214753-126	27-Jul-2022 15:49	0939_MW4055_220727		✓
EM2214753-127	27-Jul-2022 16:30	0939_QC303_220727		✓
EM2214753-128	27-Jul-2022 16:32	0939_QC403_220727	✓	
EM2214753-129	25-Jul-2022 12:30	0939_MW4053_220725		✓
EM2214753-130	27-Jul-2022 16:36	0939_MW4070_220725		✓
EM2214753-131	25-Jul-2022 12:30	0939_MW2272_220725		✓
EM2214753-132	25-Jul-2022 12:30	0939_MW4068_220725		✓
EM2214753-133	25-Jul-2022 12:30	0939_MW4048_220725		✓
EM2214753-134	25-Jul-2022 12:30	0939_MW4058_220725		✓
EM2214753-135	25-Jul-2022 12:30	0939_MW2148_220725		✓
EM2214753-136	25-Jul-2022 12:30	0939_MW2158_220725		✓
EM2214753-137	27-Jul-2022 16:43	0939_MW4221_220725		✓
EM2214753-138	25-Jul-2022 12:30	0939_MW4078_220725		✓
EM2214753-139	25-Jul-2022 12:30	0939_MW2284_220725		✓
EM2214753-140	25-Jul-2022 12:30	0939_MW4069_220725		✓
EM2214753-141	25-Jul-2022 12:30	0939_MW4222_220725		✓

			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
EM2214753-142	25-Jul-2022 12:30	0939_MW4045_220725		✓
EM2214753-143	25-Jul-2022 12:30	0939_MW4075_220725		✓
EM2214753-144	25-Jul-2022 12:30	0939_MW4074_220725		✓
EM2214753-145	25-Jul-2022 12:30	0939_MW4001_220725		✓
EM2214753-146	25-Jul-2022 12:30	0939_MW4071_220725		✓
EM2214753-147	28-Jul-2022 09:12	0939_MW4079_220728		✓
EM2214753-148	28-Jul-2022 09:11	0939_MW4073_220728		✓
EM2214753-149	28-Jul-2022 09:12	0939_MW4066_220728		✓
EM2214753-150	28-Jul-2022 09:14	0939_MW4057_220728		✓
EM2214753-151	28-Jul-2022 09:14	0939_QC110_220728		✓
EM2214753-153	28-Jul-2022 10:16	0939_MW4015_220728		✓
EM2214753-155	28-Jul-2022 10:20	0939_QC111_220728		✓
EM2214753-156	28-Jul-2022 10:26	0939_MW4035_220728		✓
EM2214753-157	28-Jul-2022 10:32	0939_MW4003_220728		✓
EM2214753-158	28-Jul-2022 11:45	0939_MW4076_220728		✓
EM2214753-159	28-Jul-2022 11:45	0939_MW4064_220728		✓
EM2214753-160	28-Jul-2022 11:56	0939_MW4219_220728		✓
EM2214753-161	28-Jul-2022 13:29	0939_SW032_220728		✓
EM2214753-162	28-Jul-2022 13:39	0939_SW033_220728		✓
EM2214753-163	28-Jul-2022 13:39	0939_SW010_220728		✓
EM2214753-164	28-Jul-2022 13:40	0939_QC112_220728		✓
EM2214753-166	28-Jul-2022 13:41	0939_SW058_220728		✓
EM2214753-167	28-Jul-2022 14:23	0939_SW011_220728		✓
EM2214753-168	28-Jul-2022 14:21	0939_SW078_220728		✓
EM2214753-169	28-Jul-2022 14:22	0939_QC113_220728		✓
EM2214753-171	28-Jul-2022 14:25	0939_SW059_220728		✓
EM2214753-172	28-Jul-2022 14:53	0939_SW062_220728		✓
EM2214753-173	29-Jul-2022 11:33	0939_QC305_220728		✓
EM2214753-174	28-Jul-2022 17:30	0939_QC405_220728	✓	
EM2214753-175	29-Jul-2022 10:32	0939_MW4223_220729		✓
EM2214753-178	27-Jul-2022 11:56	0939_MW4027_220727		✓

Proactive Holding Time Report

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

Requested Deliverables

Accounts payable

- A4 - AU Tax Invoice (INV) — Email

C[redacted]I

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT) — Email

G[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

I[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

J[redacted]N

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

- *AU Certificate of Analysis - NATA (COA) — Email
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email
- Chain of Custody (CoC) (COC) — Email
- EDI Format - ESDAT (ESDAT) — Email
- EDI Format - XTab (XTAB) — Email

[redacted]

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2214753**	Page	: 1 of 61
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: J[redacted]	Contact	: [redacted]
Address	: [redacted]	Address	[redacted]
Telephone	: ----	Telephone	
Project	: SA_0939_PFASOMP	Date Samples Received	: 02-Aug-2022 12:05
Order number	: 60612561 6.1	Date Analysis Commenced	: 04-Aug-2022
C-O-C number	: 12765	Issue Date	: 09-Aug-2022 12:58
Sampler	: [redacted]		
Site	: SA_0939_PFASOMP		
Quote number	: SY/139/19 V3		
No. of samples received	: 148		
No. of samples analysed	: 143		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP231X: Samples (EM2214753) required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (09/08/2022): This report has been amended as a result of a request to change sample identification numbers (IDs) received from Georgia Matthews on 09/08/2022, for samples EM2214753 065 + 091-094 + 178. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2112_220725	0939_MW2137_220725	0939_MW2185_220725	0939_MW2184_220725	0939_MW2281_220725
				Sampling date / time	25-Jul-2022 09:38	25-Jul-2022 10:07	25-Jul-2022 10:42	25-Jul-2022 10:40	25-Jul-2022 10:43
Compound	CAS Number	LOR	Unit		EM2214753-001	EM2214753-003	EM2214753-004	EM2214753-005	EM2214753-006
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.05**	**0.84**	**0.37**	<0.02	**0.12**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.06**	**1.28**	**0.50**	<0.02	**0.08**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.59**	**11.7**	**3.99**	**0.01**	**0.82**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	**0.51**	**0.30**	<0.02	**0.07**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.70**	**11.0**	**8.15**	**0.03**	**1.90**
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	**0.21**	**0.10**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.08**	**1.27**	**0.52**	<0.02	**0.11**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.02**	**0.15**	**0.09**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.06**	**0.34**	**0.22**	<0.01	**0.04**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2112_220725	0939_MW2137_220725	0939_MW2185_220725	0939_MW2184_220725	0939_MW2281_220725
				Sampling date / time	25-Jul-2022 09:38	25-Jul-2022 10:07	25-Jul-2022 10:42	25-Jul-2022 10:40	25-Jul-2022 10:43
Compound	CAS Number	LOR	Unit		EM2214753-001	EM2214753-003	EM2214753-004	EM2214753-005	EM2214753-006
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**3.60**	**27.3**	**14.2**	**0.04**	**3.14**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**3.29**	**22.7**	**12.1**	**0.04**	**2.72**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**3.50**	**25.5**	**13.4**	**0.04**	**2.99**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**95.7**	**104**	**103**	**99.0**	**98.5**
13C8-PFOA	----	0.02	%		**99.6**	**100**	**104**	**100**	**101**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2286_220725	0939_MW2182_220725	0939_MW2285_220725	0939_MW2275_220725	0939_QC101_220725
				Sampling date / time	25-Jul-2022 10:45	25-Jul-2022 11:30	25-Jul-2022 11:55	25-Jul-2022 11:59	25-Jul-2022 12:08
					EM2214753-007	EM2214753-008	EM2214753-009	EM2214753-010	EM2214753-011
					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		**0.04**	<0.02	<0.02	**0.04**	**0.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.30**	**0.03**	**0.06**	**1.32**	**1.25**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	**0.03**	**0.03**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.40**	**0.03**	**0.13**	**0.18**	**0.18**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	**0.02**	**0.03**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.03**	<0.02	<0.02	**0.19**	**0.19**
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	**0.12**	**0.12**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2286_220725	0939_MW2182_220725	0939_MW2285_220725	0939_MW2275_220725	0939_QC101_220725
				Sampling date / time	25-Jul-2022 10:45	25-Jul-2022 11:30	25-Jul-2022 11:55	25-Jul-2022 11:59	25-Jul-2022 12:08
Compound	CAS Number	LOR	Unit		EM2214753-007	EM2214753-008	EM2214753-009	EM2214753-010	EM2214753-011
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	**0.07**	**0.07**
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		**0.79**	**0.06**	**0.19**	**2.03**	**1.93**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.70**	**0.06**	**0.19**	**1.50**	**1.43**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.75**	**0.06**	**0.19**	**1.96**	**1.86**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**106**	**111**	**97.8**	**104**	**96.2**
13C8-PFOA	----	0.02	%		**96.6**	**104**	**103**	**101**	**97.9**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2183_220725	0939_MW2180_220725	0939_MW2177_220725	0939_MW2175_220725	0939_MW2176_220725
				Sampling date / time	25-Jul-2022 11:28	25-Jul-2022 12:10	25-Jul-2022 12:21	25-Jul-2022 12:34	25-Jul-2022 12:38
					EM2214753-013	EM2214753-014	EM2214753-015	EM2214753-016	EM2214753-017
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.21**	**0.57**	**0.11**	**0.05**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.25**	**2.52**	**0.19**	**0.05**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.99**	**57.0**	**2.93**	**0.24**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.15**	**6.21**	**0.29**	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**3.99**	**48.7**	**4.88**	**0.07**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**0.3**	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.06**	**0.89**	**0.07**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.31**	**6.72**	**0.56**	**0.02**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.05**	**0.81**	**0.06**	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.11**	**7.77**	**0.16**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.08**	<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	**0.04**	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2183_220725	0939_MW2180_220725	0939_MW2177_220725	0939_MW2175_220725	0939_MW2176_220725
				Sampling date / time	25-Jul-2022 11:28	25-Jul-2022 12:10	25-Jul-2022 12:21	25-Jul-2022 12:34	25-Jul-2022 12:38
					EM2214753-013	EM2214753-014	EM2214753-015	EM2214753-016	EM2214753-017
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**7.12**	**132**	**9.25**	**0.43**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**5.98**	**106**	**7.81**	**0.31**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**6.72**	**123**	**8.77**	**0.38**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**94.7**	**109**	**102**	**106**
13C8-PFOA	----	0.02	%		**102**	**101**	**99.6**	**103**	**99.0**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2173_220725	0939_MW2172_220725	0939_MW2145_220725	0939_MW2129_220725	0939_MW2169_220725
				Sampling date / time	25-Jul-2022 12:49	25-Jul-2022 12:53	25-Jul-2022 13:16	25-Jul-2022 13:14	25-Jul-2022 13:24
					EM2214753-018	EM2214753-019	EM2214753-020	EM2214753-021	EM2214753-022
					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	**0.42**	**0.03**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.08**	**1.09**	**0.05**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	**0.10**	**0.64**	**16.8**	**0.43**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**0.04**	**0.26**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.02**	<0.01	**0.91**	**2.53**	**0.07**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**0.02**	**0.36**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.12**	**2.91**	**0.05**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	**0.32**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.03**	**0.67**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2173_220725	0939_MW2172_220725	0939_MW2145_220725	0939_MW2129_220725	0939_MW2169_220725
				Sampling date / time	25-Jul-2022 12:49	25-Jul-2022 12:53	25-Jul-2022 13:16	25-Jul-2022 13:14	25-Jul-2022 13:24
Compound	CAS Number	LOR	Unit		EM2214753-018	EM2214753-019	EM2214753-020	EM2214753-021	EM2214753-022
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.04**	**0.10**	**1.84**	**25.4**	**0.63**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.04**	**0.10**	**1.55**	**19.3**	**0.50**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.04**	**0.10**	**1.72**	**24.0**	**0.58**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**102**	**104**	**98.8**	**109**
13C8-PFOA	----	0.02	%		**87.5**	**99.2**	**100**	**102**	**103**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2139_220725	0939_MW2166_220725	0939_MW2358_220725	0939_MW2126_220725	0939_QC102_220725
				Sampling date / time	25-Jul-2022 13:30	25-Jul-2022 13:48	25-Jul-2022 14:03	25-Jul-2022 14:07	25-Jul-2022 14:14
Compound	CAS Number	LOR	Unit		EM2214753-023	EM2214753-024	EM2214753-025	EM2214753-026	EM2214753-027
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**8.95**	**0.10**	**0.09**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**9.27**	**0.10**	**0.10**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.16**	<0.01	**64.7**	**0.72**	**0.78**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	**4.42**	**0.06**	**0.06**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**44.0**	**0.54**	**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	**1.1**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	**3.07**	**0.03**	**0.03**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**14.0**	**0.14**	**0.14**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	**2.10**	**0.02**	**0.02**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**2.37**	**0.04**	**0.04**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2139_220725	0939_MW2166_220725	0939_MW2358_220725	0939_MW2126_220725	0939_QC102_220725
				Sampling date / time	25-Jul-2022 13:30	25-Jul-2022 13:48	25-Jul-2022 14:03	25-Jul-2022 14:07	25-Jul-2022 14:14
Compound	CAS Number	LOR	Unit		EM2214753-023	EM2214753-024	EM2214753-025	EM2214753-026	EM2214753-027
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<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	**154**	**1.75**	**1.80**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.16**	<0.01	**109**	**1.26**	**1.32**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.16**	<0.01	**140**	**1.59**	**1.64**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**103**	**99.8**	**110**	**91.6**
13C8-PFOA	----	0.02	%		**99.1**	**97.9**	**97.2**	**101**	**93.9**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2411_220725	0939_MW2394_220725	0939_MW2162_220725	0939_QC103_220725	0939_MW2202_220725
				Sampling date / time	25-Jul-2022 14:21	25-Jul-2022 14:50	25-Jul-2022 15:02	25-Jul-2022 15:02	25-Jul-2022 15:24
					EM2214753-029	EM2214753-030	EM2214753-031	EM2214753-032	EM2214753-034
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.20**	<0.02	**0.04**	**0.04**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.12**	<0.02	**0.03**	**0.03**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.43**	**0.04**	**0.29**	**0.26**	**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		**0.17**	**0.06**	**0.16**	**0.14**	**0.09**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**0.1**	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.06**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.22**	<0.02	**0.04**	**0.04**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.01**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2411_220725	0939_MW2394_220725	0939_MW2162_220725	0939_QC103_220725	0939_MW2202_220725
				Sampling date / time	25-Jul-2022 14:21	25-Jul-2022 14:50	25-Jul-2022 15:02	25-Jul-2022 15:02	25-Jul-2022 15:24
Compound	CAS Number	LOR	Unit		EM2214753-029	EM2214753-030	EM2214753-031	EM2214753-032	EM2214753-034
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.30**	**0.10**	**0.56**	**0.52**	**0.11**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.60**	**0.10**	**0.45**	**0.40**	**0.11**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.18**	**0.10**	**0.53**	**0.49**	**0.11**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**84.6**	**115**	**95.3**	**108**	**105**
13C8-PFOA	----	0.02	%		**88.9**	**97.1**	**99.8**	**98.7**	**95.2**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2201_220725	0939_MW2203_220725	0939_MW2197_220725	0939_MW2193_220725	0939_MW2194_220725
				Sampling date / time	25-Jul-2022 15:27	25-Jul-2022 15:39	25-Jul-2022 15:52	25-Jul-2022 16:11	25-Jul-2022 16:24
					EM2214753-035	EM2214753-036	EM2214753-037	EM2214753-038	EM2214753-039
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**79.6**	**16.8**	**4.25**	**0.06**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**113**	**27.7**	**5.32**	**0.05**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.16**	**875**	**176**	**34.0**	**0.47**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**159**	**28.9**	**2.41**	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.32**	**4330**	**387**	**53.9**	**0.91**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.35	**0.17**	**0.09**	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**5.8**	**2.3**	**0.5**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**37.8**	**6.88**	**1.48**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**174**	**32.7**	**7.62**	**0.08**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**27.2**	**5.34**	**0.86**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**59.2**	**11.6**	**1.54**	**0.03**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.35	**0.10**	<0.03	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.35	<0.04	<0.03	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.35	<0.04	<0.03	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.35	<0.04	<0.03	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.35	<0.04	<0.03	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.87	<0.09	<0.09	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.35	**0.18**	**0.04**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.87	<0.09	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.87	<0.09	<0.09	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2201_220725	0939_MW2203_220725	0939_MW2197_220725	0939_MW2193_220725	0939_MW2194_220725
				Sampling date / time	25-Jul-2022 15:27	25-Jul-2022 15:39	25-Jul-2022 15:52	25-Jul-2022 16:11	25-Jul-2022 16:24
Compound	CAS Number	LOR	Unit		EM2214753-035	EM2214753-036	EM2214753-037	EM2214753-038	EM2214753-039
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.87	<0.09	<0.09	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.87	<0.09	<0.09	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.35	<0.04	<0.03	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.35	<0.04	<0.03	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.35	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.35	**0.13**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.35	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.35	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.48**	**5860**	**696**	**112**	**1.64**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.48**	**5200**	**563**	**87.9**	**1.38**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.48**	**5590**	**639**	**104**	**1.55**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**131**	**115**	**120**	**110**
13C8-PFOA	----	0.02	%		**94.8**	**98.0**	**89.1**	**88.0**	**95.0**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2150_220725	0939_MW2189_220725	0939_MW2149_220726	0939_MW2499_220726	0939_MW2200_220726
				Sampling date / time	25-Jul-2022 16:44	25-Jul-2022 16:59	26-Jul-2022 10:04	26-Jul-2022 10:12	26-Jul-2022 10:52
					EM2214753-040	EM2214753-041	EM2214753-050	EM2214753-051	EM2214753-052
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.21**	**12.9**	**9.43**	**10.6**	**6.26**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.27**	**18.4**	**15.9**	**13.4**	**8.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**4.23**	**118**	**108**	**117**	**59.6**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.23**	**17.0**	**8.30**	**33.7**	**4.48**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**10.7**	**290**	**108**	**2560**	**50.1**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.04	<0.03	**0.17**	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**1.7**	**1.6**	**2.1**	**0.6**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.08**	**5.34**	**4.88**	**6.49**	**1.78**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.39**	**23.1**	**21.5**	**28.8**	**9.46**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.05**	**3.98**	**3.95**	**3.39**	**1.49**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.12**	**8.33**	**8.58**	**16.1**	**2.94**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	**0.05**	**0.04**	**0.43**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.04	<0.03	**0.08**	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.04	<0.03	<0.03	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.04	<0.03	<0.03	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.04	<0.03	<0.03	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.09	<0.08	<0.08	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.04	**0.14**	**0.32**	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.09	<0.08	<0.08	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.09	<0.08	<0.08	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2150_220725	0939_MW2189_220725	0939_MW2149_220726	0939_MW2499_220726	0939_MW2200_220726
				Sampling date / time	25-Jul-2022 16:44	25-Jul-2022 16:59	26-Jul-2022 10:04	26-Jul-2022 10:12	26-Jul-2022 10:52
Compound	CAS Number	LOR	Unit		EM2214753-040	EM2214753-041	EM2214753-050	EM2214753-051	EM2214753-052
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.09	<0.08	<0.08	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.09	<0.08	<0.08	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.04	<0.03	<0.03	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.04	<0.03	<0.03	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.36**	<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		**16.3**	**499**	**291**	**2790**	**145**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**14.9**	**408**	**216**	**2680**	**110**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**15.8**	**463**	**266**	**2740**	**132**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**105**	**91.8**	**118**	**78.1**	**86.2**
13C8-PFOA	----	0.02	%		**95.6**	**88.7**	**104**	**99.6**	**97.2**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2270_220726	0939_MW2120_220726	0939_MW2116_220726	0939_QC105_220726	0939_MW2490_220726
				Sampling date / time	26-Jul-2022 10:59	26-Jul-2022 11:00	26-Jul-2022 12:10	26-Jul-2022 12:11	26-Jul-2022 12:23
Compound	CAS Number	LOR	Unit		EM2214753-053	EM2214753-054	EM2214753-055	EM2214753-056	EM2214753-059
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.16**	**0.14**	**584**	**602**	**82.3**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.17**	**0.16**	**877**	**941**	**186**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**1.07**	**3.21**	**6700**	**6540**	**1290**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.05**	**1.12**	**407**	**431**	**110**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.52**	**48.2**	**6900**	**6910**	**1950**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	**0.36**	**3.28**	**2.78**	<0.34
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	**51.2**	**50.3**	**6.0**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.04**	**0.07**	**237**	**238**	**33.3**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.23**	**0.35**	**1180**	**1140**	**170**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.03**	**0.09**	**172**	**178**	**27.0**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.06**	**0.62**	**385**	**390**	**77.0**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.63**	**0.53**	<0.34
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.36	<0.36	<0.34
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.36	<0.36	<0.34
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.36	<0.36	<0.34
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.36	<0.36	<0.34
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.90	<0.89	<0.84
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	**0.46**	**9.45**	**6.27**	<0.34
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.90	<0.89	<0.84
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.90	<0.89	<0.84

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2270_220726	0939_MW2120_220726	0939_MW2116_220726	0939_QC105_220726	0939_MW2490_220726
				Sampling date / time	26-Jul-2022 10:59	26-Jul-2022 11:00	26-Jul-2022 12:10	26-Jul-2022 12:11	26-Jul-2022 12:23
Compound	CAS Number	LOR	Unit		EM2214753-053	EM2214753-054	EM2214753-055	EM2214753-056	EM2214753-059
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.90	<0.89	<0.84
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.90	<0.89	<0.84
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.36	<0.36	<0.34
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.36	<0.36	<0.34
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.36	<0.36	<0.34
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	**0.89**	**1.09**	<0.34
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.36	<0.36	<0.34
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.36	<0.36	<0.34
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**2.33**	**54.8**	**17500**	**17400**	**3930**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.59**	**51.4**	**13600**	**13400**	**3240**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**2.11**	**52.7**	**16200**	**16000**	**3640**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100.0**	**93.3**	**126**	**119**	**123**
13C8-PFOA	----	0.02	%		**92.2**	**95.7**	**101**	**99.0**	**110**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2130_220726	0939_MW2209_220726	0939_MW2114_220726	0939_MW2157_220726	0669_MW2325_220726
				Sampling date / time	26-Jul-2022 12:35	26-Jul-2022 13:22	26-Jul-2022 13:44	26-Jul-2022 13:51	26-Jul-2022 14:07
Compound	CAS Number	LOR	Unit		EM2214753-060	EM2214753-061	EM2214753-063	EM2214753-064	EM2214753-065
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**5.79**	<0.02	**17.0**	**0.59**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**7.45**	<0.02	**17.8**	**0.61**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**49.2**	**0.03**	**83.0**	**4.39**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**6.75**	<0.02	**10.8**	**0.42**	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**227**	**0.43**	**130**	**11.4**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		**0.94**	<0.02	<0.03	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**2.2**	<0.1	**2.2**	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**5.31**	<0.02	**4.79**	**0.20**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**24.9**	<0.02	**22.2**	**1.00**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**4.31**	<0.02	**6.28**	**0.14**	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**8.45**	<0.01	**12.2**	**0.35**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.25**	<0.02	**0.04**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		**0.12**	<0.02	<0.03	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.02	<0.03	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.02	<0.03	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.02	<0.03	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	<0.05	<0.08	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		**0.18**	<0.02	<0.03	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	<0.05	<0.08	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.05	<0.08	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2130_220726	0939_MW2209_220726	0939_MW2114_220726	0939_MW2157_220726	0669_MW2325_220726
				Sampling date / time	26-Jul-2022 12:35	26-Jul-2022 13:22	26-Jul-2022 13:44	26-Jul-2022 13:51	26-Jul-2022 14:07
					EM2214753-060	EM2214753-061	EM2214753-063	EM2214753-064	EM2214753-065
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	<0.05	<0.08	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	<0.05	<0.08	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.02	<0.03	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<0.02	<0.03	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.30**	<0.05	**0.57**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		**0.19**	<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		**343**	**0.46**	**307**	**19.1**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**276**	**0.46**	**213**	**15.8**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**328**	**0.46**	**278**	**18.1**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**118**	**100**	**120**	**96.8**	**103**
13C8-PFOA	----	0.02	%		**97.6**	**98.6**	**103**	**96.6**	**94.3**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2218_220726	0939_MW2134_220726	0939_MW2501_220726	0939_SW050_220726	0939_MW2216_220726
				Sampling date / time	26-Jul-2022 14:20	26-Jul-2022 14:37	26-Jul-2022 14:43	26-Jul-2022 15:00	26-Jul-2022 15:32
					EM2214753-066	EM2214753-068	EM2214753-069	EM2214753-070	EM2214753-072
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.18**	**0.02**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.11**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.95**	**0.06**	**0.06**	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.09**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.91**	<0.01	**0.15**	**0.06**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.04**	<0.02	**0.03**	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.22**	<0.02	**0.02**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.09**	<0.01	**0.01**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2218_220726	0939_MW2134_220726	0939_MW2501_220726	0939_SW050_220726	0939_MW2216_220726
				Sampling date / time	26-Jul-2022 14:20	26-Jul-2022 14:37	26-Jul-2022 14:43	26-Jul-2022 15:00	26-Jul-2022 15:32
Compound	CAS Number	LOR	Unit		EM2214753-066	EM2214753-068	EM2214753-069	EM2214753-070	EM2214753-072
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**4.62**	**0.08**	**0.27**	**0.06**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**3.86**	**0.06**	**0.21**	**0.06**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**4.42**	**0.08**	**0.27**	**0.06**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**104**	**103**	**84.9**	**102**	**100**
13C8-PFOA	----	0.02	%		**95.0**	**97.8**	**76.9**	**92.2**	**98.0**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2135_220726	0939_MW2188_220725	0939_MW2210_220726	0939_MW2131_220726	0939_MW2528_220726
				Sampling date / time	26-Jul-2022 15:35	25-Jul-2022 16:54	26-Jul-2022 12:55	26-Jul-2022 13:01	26-Jul-2022 13:28
					EM2214753-073	EM2214753-091	EM2214753-092	EM2214753-093	EM2214753-094
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**9.25**	**7.16**	**1.03**	**2.78**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**13.3**	**5.87**	**1.34**	**1.69**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**94.0**	**40.4**	**17.0**	**11.3**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**8.21**	**6.49**	**0.62**	**1.18**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	**139**	**66.3**	**200**	**36.4**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.03	<0.03	**0.11**	**0.22**
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	**1.0**	**0.8**	**1.1**	**6.6**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	**3.78**	**2.26**	**4.08**	**6.68**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**17.0**	**11.5**	**9.57**	**11.2**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**2.36**	**1.78**	**2.34**	**0.96**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**5.17**	**3.00**	**6.59**	**1.66**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.03	<0.03	**0.15**	**0.21**
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.03	<0.03	**0.04**	**0.09**
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.03	<0.03	<0.03	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.03	<0.03	<0.03	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.03	<0.03	<0.03	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.08	<0.08	<0.08	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.03	<0.03	**0.72**	**0.11**
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.08	<0.08	<0.08	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.08	<0.08	<0.08	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2135_220726	0939_MW2188_220725	0939_MW2210_220726	0939_MW2131_220726	0939_MW2528_220726
				Sampling date / time	26-Jul-2022 15:35	25-Jul-2022 16:54	26-Jul-2022 12:55	26-Jul-2022 13:01	26-Jul-2022 13:28
Compound	CAS Number	LOR	Unit		EM2214753-073	EM2214753-091	EM2214753-092	EM2214753-093	EM2214753-094
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.08	<0.08	<0.08	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.08	<0.08	<0.08	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.03	<0.03	<0.03	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.03	<0.03	<0.03	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	**1.30**	**0.15**
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	**0.11**	**0.12**
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	**293**	**146**	**246**	**81.4**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**233**	**107**	**217**	**47.7**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**272**	**133**	**243**	**77.8**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**96.0**	**114**	**79.2**	**99.9**	**103**
13C8-PFOA	----	0.02	%		**88.8**	**93.3**	**89.7**	**98.0**	**96.4**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC106_220726-1	0939_MW4013_220727	0939_MW4061_220727	0939_MW4065_220727	0939_MW4021_220727
				Sampling date / time	26-Jul-2022 14:25	27-Jul-2022 09:20	27-Jul-2022 09:47	27-Jul-2022 09:57	27-Jul-2022 10:12
					EM2214753-096	EM2214753-098	EM2214753-099	EM2214753-100	EM2214753-101
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.11**	**0.25**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.08**	**0.24**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.89**	**2.33**	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.11**	**0.11**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**2.74**	**3.72**	<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		**0.04**	**0.12**	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.19**	**0.32**	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.03**	**0.06**	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.08**	**0.12**	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC106_220726-1	0939_MW4013_220727	0939_MW4061_220727	0939_MW4065_220727	0939_MW4021_220727
				Sampling date / time	26-Jul-2022 14:25	27-Jul-2022 09:20	27-Jul-2022 09:47	27-Jul-2022 09:57	27-Jul-2022 10:12
Compound	CAS Number	LOR	Unit		EM2214753-096	EM2214753-098	EM2214753-099	EM2214753-100	EM2214753-101
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**4.27**	**7.27**	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**3.63**	**6.05**	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**4.08**	**6.92**	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**114**	**106**	**99.8**	**113**
13C8-PFOA	----	0.02	%		**103**	**99.6**	**99.8**	**98.7**	**98.6**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4020_220727	0939_MW4009_220727	0939_MW4022_220727	0939_QC107_220727	0939_QC108_220727
				Sampling date / time	27-Jul-2022 10:24	27-Jul-2022 10:47	27-Jul-2022 10:43	27-Jul-2022 10:42	27-Jul-2022 11:00
					EM2214753-102	EM2214753-103	EM2214753-104	EM2214753-105	EM2214753-107
					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	**0.05**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.04**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.54**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.42**
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	**0.09**
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	**0.02**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4020_220727	0939_MW4009_220727	0939_MW4022_220727	0939_QC107_220727	0939_QC108_220727
				Sampling date / time	27-Jul-2022 10:24	27-Jul-2022 10:47	27-Jul-2022 10:43	27-Jul-2022 10:42	27-Jul-2022 11:00
Compound	CAS Number	LOR	Unit		EM2214753-102	EM2214753-103	EM2214753-104	EM2214753-105	EM2214753-107
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**1.20**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.96**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**1.12**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**114**	**99.1**	**94.9**	**110**	**108**
13C8-PFOA	----	0.02	%		**99.7**	**108**	**104**	**96.4**	**99.5**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4024_220727	0939_MW4023_220727	0939_MW4060_220727	0939_MW4077_220727	0939_MW4059_220727
				Sampling date / time	27-Jul-2022 11:04	27-Jul-2022 11:07	27-Jul-2022 11:11	27-Jul-2022 11:39	27-Jul-2022 11:43
					EM2214753-108	EM2214753-110	EM2214753-111	EM2214753-112	EM2214753-113
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.06**	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.04**	**0.06**	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.56**	**0.86**	<0.01	**0.01**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.04**	**0.09**	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.44**	**0.74**	<0.01	**0.04**	<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		**0.08**	**0.14**	<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		**0.02**	**0.04**	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4024_220727	0939_MW4023_220727	0939_MW4060_220727	0939_MW4077_220727	0939_MW4059_220727
				Sampling date / time	27-Jul-2022 11:04	27-Jul-2022 11:07	27-Jul-2022 11:11	27-Jul-2022 11:39	27-Jul-2022 11:43
Compound	CAS Number	LOR	Unit		EM2214753-108	EM2214753-110	EM2214753-111	EM2214753-112	EM2214753-113
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**1.18**	**2.01**	<0.01	**0.05**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.00**	**1.60**	<0.01	**0.05**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**1.10**	**1.86**	<0.01	**0.05**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**109**	**102**	**100**	**108**	**101**
13C8-PFOA	----	0.02	%		**105**	**98.7**	**92.4**	**107**	**105**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4218_220727	0939_MW2159_220727	0939_MW4220_220727	0939_MW4052_220727	0939_MW4072_220727
				Sampling date / time	27-Jul-2022 13:00	27-Jul-2022 13:27	27-Jul-2022 14:08	27-Jul-2022 14:34	27-Jul-2022 14:47
					EM2214753-114	EM2214753-119	EM2214753-120	EM2214753-121	EM2214753-122
					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	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4218_220727	0939_MW2159_220727	0939_MW4220_220727	0939_MW4052_220727	0939_MW4072_220727
				Sampling date / time	27-Jul-2022 13:00	27-Jul-2022 13:27	27-Jul-2022 14:08	27-Jul-2022 14:34	27-Jul-2022 14:47
Compound	CAS Number	LOR	Unit		EM2214753-114	EM2214753-119	EM2214753-120	EM2214753-121	EM2214753-122
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**100**	**104**	**104**	**108**	**96.3**
13C8-PFOA	----	0.02	%		**97.4**	**97.8**	**99.5**	**98.5**	**101**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4041_220727	0939_MW4037_220727	0939_MW4055_220727	0939_MW4053_220725	0939_MW4070_220725
				Sampling date / time	27-Jul-2022 14:58	27-Jul-2022 15:04	27-Jul-2022 15:49	25-Jul-2022 12:30	27-Jul-2022 16:36
Compound	CAS Number	LOR	Unit		EM2214753-123	EM2214753-124	EM2214753-126	EM2214753-129	EM2214753-130
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**0.04**	<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	**0.37**	<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	**0.81**	<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	**0.03**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4041_220727	0939_MW4037_220727	0939_MW4055_220727	0939_MW4053_220725	0939_MW4070_220725
				Sampling date / time	27-Jul-2022 14:58	27-Jul-2022 15:04	27-Jul-2022 15:49	25-Jul-2022 12:30	27-Jul-2022 16:36
Compound	CAS Number	LOR	Unit		EM2214753-123	EM2214753-124	EM2214753-126	EM2214753-129	EM2214753-130
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.01**	<0.01	**1.32**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.01**	<0.01	**1.18**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.01**	<0.01	**1.25**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**101**	**104**	**111**	**109**	**118**
13C8-PFOA	----	0.02	%		**101**	**104**	**100**	**97.7**	**100**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2272_220725	0939_MW4068_220725	0939_MW4048_220725	0939_MW4058_220725	0939_MW2148_220725
				Sampling date / time	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30
					EM2214753-131	EM2214753-132	EM2214753-133	EM2214753-134	EM2214753-135
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**35.3**	**0.23**	**0.05**	<0.02	**46.2**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**34.9**	**0.27**	**0.04**	<0.02	**49.3**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**194**	**2.39**	**0.32**	<0.01	**368**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**20.0**	**0.20**	<0.02	<0.02	**33.2**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**118**	**5.91**	**0.60**	<0.01	**588**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**4.7**	<0.1	<0.1	<0.1	**5.7**
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**12.5**	**0.06**	**0.03**	<0.02	**13.2**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**61.0**	**0.27**	**0.07**	<0.02	**67.3**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**10.0**	**0.05**	**0.02**	<0.02	**12.1**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**17.3**	**0.12**	**0.04**	<0.01	**31.8**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		**0.08**	<0.02	<0.02	<0.02	<0.35
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.88
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.88
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.88

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2272_220725	0939_MW4068_220725	0939_MW4048_220725	0939_MW4058_220725	0939_MW2148_220725
				Sampling date / time	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30
Compound	CAS Number	LOR	Unit		EM2214753-131	EM2214753-132	EM2214753-133	EM2214753-134	EM2214753-135
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.88
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.09	<0.05	<0.05	<0.05	<0.88
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.04	<0.02	<0.02	<0.02	<0.35
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	<0.35
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.35
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.35
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.35
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**508**	**9.50**	**1.17**	<0.01	**1210**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**312**	**8.30**	**0.92**	<0.01	**956**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**453**	**9.03**	**1.13**	<0.01	**1130**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**103**	**104**	**114**	**117**	**105**
13C8-PFOA	----	0.02	%		**96.8**	**96.0**	**99.7**	**104**	**87.0**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW2158_220725	0939_MW4221_220725	0939_MW4078_220725	0939_MW2284_220725	0939_MW4069_220725
				Sampling date / time	25-Jul-2022 12:30	27-Jul-2022 16:43	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30
					EM2214753-136	EM2214753-137	EM2214753-138	EM2214753-139	EM2214753-140
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**99.1**	<0.02	<0.02	**5.85**	**0.08**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**112**	<0.02	<0.02	**5.13**	**0.09**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**634**	<0.01	<0.01	**35.5**	**0.74**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**66.0**	<0.02	<0.02	**3.07**	**0.04**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**1580**	<0.01	<0.01	**28.2**	**1.49**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		**13.5**	<0.1	<0.1	**0.2**	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**38.8**	<0.02	<0.02	**2.40**	**0.05**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**193**	<0.02	<0.02	**10.4**	**0.14**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**33.8**	<0.02	<0.02	**1.89**	**0.03**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**71.6**	<0.01	<0.01	**3.41**	**0.05**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.89	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.89	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.89	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW2158_220725	0939_MW4221_220725	0939_MW4078_220725	0939_MW2284_220725	0939_MW4069_220725
				Sampling date / time	25-Jul-2022 12:30	27-Jul-2022 16:43	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30
Compound	CAS Number	LOR	Unit		EM2214753-136	EM2214753-137	EM2214753-138	EM2214753-139	EM2214753-140
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.89	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.89	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.36	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.36	<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		<0.36	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.36	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.36	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.36	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**2840**	<0.01	<0.01	**96.0**	**2.71**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**2210**	<0.01	<0.01	**63.7**	**2.23**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**2660**	<0.01	<0.01	**87.8**	**2.58**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**113**	**110**	**114**	**112**	**106**
13C8-PFOA	----	0.02	%		**73.0**	**101**	**102**	**102**	**102**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4222_220725	0939_MW4045_220725	0939_MW4075_220725	0939_MW4074_220725	0939_MW4001_220725
				Sampling date / time	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30
					EM2214753-141	EM2214753-142	EM2214753-143	EM2214753-144	EM2214753-145
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.05**	<0.02	**0.02**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	**0.04**	<0.02	**0.02**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	**0.08**	**0.30**	<0.01	**0.27**
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	**0.21**	**0.10**	**0.15**	**0.88**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	**0.04**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	**0.09**	<0.02	**0.05**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.02**	<0.01	**0.04**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4222_220725	0939_MW4045_220725	0939_MW4075_220725	0939_MW4074_220725	0939_MW4001_220725
				Sampling date / time	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30	25-Jul-2022 12:30
					EM2214753-141	EM2214753-142	EM2214753-143	EM2214753-144	EM2214753-145
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.29**	**0.60**	**0.15**	**1.32**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.29**	**0.40**	**0.15**	**1.15**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.29**	**0.56**	**0.15**	**1.30**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**110**	**96.6**	**107**	**106**	**119**
13C8-PFOA	----	0.02	%		**105**	**102**	**104**	**104**	**103**

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4071_220725	0939_MW4079_220728	0939_MW4073_220728	0939_MW4066_220728	0939_MW4057_220728
				Sampling date / time	25-Jul-2022 12:30	28-Jul-2022 09:12	28-Jul-2022 09:11	28-Jul-2022 09:12	28-Jul-2022 09:14
Compound	CAS Number	LOR	Unit		EM2214753-146	EM2214753-147	EM2214753-148	EM2214753-149	EM2214753-150
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	**0.05**	**0.10**	**0.06**	**0.03**
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	**0.06**	**0.26**	**0.16**	**0.06**
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**	**0.06**	**0.04**	**0.04**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	**0.02**	**0.04**	**0.01**	**0.01**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4071_220725	0939_MW4079_220728	0939_MW4073_220728	0939_MW4066_220728	0939_MW4057_220728
				Sampling date / time	25-Jul-2022 12:30	28-Jul-2022 09:12	28-Jul-2022 09:11	28-Jul-2022 09:12	28-Jul-2022 09:14
Compound	CAS Number	LOR	Unit		EM2214753-146	EM2214753-147	EM2214753-148	EM2214753-149	EM2214753-150
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	**0.14**	**0.49**	**0.30**	**0.14**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	**0.07**	**0.32**	**0.20**	**0.10**
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	**0.14**	**0.46**	**0.30**	**0.14**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**104**	**99.0**	**105**	**99.2**
13C8-PFOA	----	0.02	%		**107**	**96.3**	**97.3**	**100**	**99.2**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC110_220728	0939_MW4015_220728	0939_QC111_220728	0939_MW4035_220728	0939_MW4003_220728
				Sampling date / time	28-Jul-2022 09:14	28-Jul-2022 10:16	28-Jul-2022 10:20	28-Jul-2022 10:26	28-Jul-2022 10:32
					EM2214753-151	EM2214753-153	EM2214753-155	EM2214753-156	EM2214753-157
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.03**	**0.26**	**0.28**	**0.72**	**0.32**
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	**0.40**	**0.41**	**0.64**	**0.40**
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.07**	**4.72**	**4.89**	**6.06**	**3.72**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	**0.23**	**0.23**	**0.46**	**0.26**
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**0.05**	**6.64**	**6.53**	**12.8**	**8.76**
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	**0.09**	**0.08**	**0.14**	**0.10**
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	**0.49**	**0.48**	**0.74**	**0.47**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	**0.07**	**0.07**	**0.14**	**0.10**
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.01**	**0.16**	**0.17**	**0.32**	**0.22**
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_QC110_220728	0939_MW4015_220728	0939_QC111_220728	0939_MW4035_220728	0939_MW4003_220728
				Sampling date / time	28-Jul-2022 09:14	28-Jul-2022 10:16	28-Jul-2022 10:20	28-Jul-2022 10:26	28-Jul-2022 10:32
Compound	CAS Number	LOR	Unit		EM2214753-151	EM2214753-153	EM2214753-155	EM2214753-156	EM2214753-157
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.16**	**13.1**	**13.1**	**22.0**	**14.4**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.12**	**11.4**	**11.4**	**18.9**	**12.5**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.16**	**12.4**	**12.5**	**20.9**	**13.7**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.7**	**101**	**95.7**	**87.9**	**111**
13C8-PFOA	----	0.02	%		**98.4**	**96.5**	**100**	**93.6**	**99.5**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_MW4076_220728	0939_MW4064_220728	0939_MW4219_220728	0939_MW4223_220729	0939_MW4027_220727
				Sampling date / time	28-Jul-2022 11:45	28-Jul-2022 11:45	28-Jul-2022 11:56	29-Jul-2022 10:32	27-Jul-2022 11:56
					EM2214753-158	EM2214753-159	EM2214753-160	EM2214753-175	EM2214753-178
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	**0.04**	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	<0.01	**0.16**	<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	**0.18**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: GROUNDWATER (Matrix: WATER)				Sample ID	0939_MW4076_220728	0939_MW4064_220728	0939_MW4219_220728	0939_MW4223_220729	0939_MW4027_220727
				Sampling date / time	28-Jul-2022 11:45	28-Jul-2022 11:45	28-Jul-2022 11:56	29-Jul-2022 10:32	27-Jul-2022 11:56
Compound	CAS Number	LOR	Unit		EM2214753-158	EM2214753-159	EM2214753-160	EM2214753-175	EM2214753-178
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.04**	<0.01	**0.38**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.04**	<0.01	**0.34**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.04**	<0.01	**0.38**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.3**	**103**	**102**	**120**	**103**
13C8-PFOA	----	0.02	%		**99.7**	**96.4**	**102**	**100**	**91.9**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_QC301_220725	0939_QC302_220725	0939_QC304_220726	0939_QC303_220727	0939_QC305_220728
				Sampling date / time	26-Jul-2022 08:45	25-Jul-2022 16:30	26-Jul-2022 15:43	27-Jul-2022 16:30	29-Jul-2022 11:33
					EM2214753-042	EM2214753-044	EM2214753-074	EM2214753-127	EM2214753-173
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: RINSATE (Matrix: WATER)				Sample ID	0939_QC301_220725	0939_QC302_220725	0939_QC304_220726	0939_QC303_220727	0939_QC305_220728
				Sampling date / time	26-Jul-2022 08:45	25-Jul-2022 16:30	26-Jul-2022 15:43	27-Jul-2022 16:30	29-Jul-2022 11:33
Compound	CAS Number	LOR	Unit		EM2214753-042	EM2214753-044	EM2214753-074	EM2214753-127	EM2214753-173
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**95.8**	**103**	**112**	**116**
13C8-PFOA	----	0.02	%		**93.5**	**93.2**	**94.7**	**102**	**95.9**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_SW006_220725	0939_SW017_220726	0939_QC104_220726	0939_SW003_220726	0939_SW018_220726
				Sampling date / time	25-Jul-2022 09:47	26-Jul-2022 09:15	26-Jul-2022 09:19	26-Jul-2022 09:30	26-Jul-2022 12:16
Compound	CAS Number	LOR	Unit		EM2214753-002	EM2214753-046	EM2214753-047	EM2214753-049	EM2214753-058
					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		**0.02**	<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		**0.09**	<0.01	<0.01	<0.01	**0.02**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_SW006_220725	0939_SW017_220726	0939_QC104_220726	0939_SW003_220726	0939_SW018_220726
				Sampling date / time	25-Jul-2022 09:47	26-Jul-2022 09:15	26-Jul-2022 09:19	26-Jul-2022 09:30	26-Jul-2022 12:16
Compound	CAS Number	LOR	Unit		EM2214753-002	EM2214753-046	EM2214753-047	EM2214753-049	EM2214753-058
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.11**	<0.01	<0.01	<0.01	**0.02**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.11**	<0.01	<0.01	<0.01	**0.02**
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.11**	<0.01	<0.01	<0.01	**0.02**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**108**	**111**	**97.2**	**92.2**	**92.3**
13C8-PFOA	----	0.02	%		**100**	**96.2**	**93.1**	**88.8**	**98.6**

Analytical Results

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

Compound	CAS Number	LOR	Unit	Sample ID	0939_SW019_220726	0939_SW054_220726	0939_SW021_220726 -2	0939_SW012_220727	0939_SW029_220727
				Sampling date / time	26-Jul-2022 13:35	26-Jul-2022 15:03	26-Jul-2022 14:01	27-Jul-2022 09:18	27-Jul-2022 13:14
					EM2214753-062	EM2214753-071	EM2214753-095	EM2214753-097	EM2214753-115
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		**0.09**	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.08**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.52**	**0.01**	<0.01	**0.01**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		**0.05**	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		**1.45**	**0.06**	<0.01	**0.04**	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		**0.03**	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.12**	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		**0.04**	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		**0.07**	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_SW019_220726	0939_SW054_220726	0939_SW021_220726 -2	0939_SW012_220727	0939_SW029_220727
				Sampling date / time	26-Jul-2022 13:35	26-Jul-2022 15:03	26-Jul-2022 14:01	27-Jul-2022 09:18	27-Jul-2022 13:14
Compound	CAS Number	LOR	Unit		EM2214753-062	EM2214753-071	EM2214753-095	EM2214753-097	EM2214753-115
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**2.45**	**0.07**	<0.01	**0.05**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**1.97**	**0.07**	<0.01	**0.05**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**2.32**	**0.07**	<0.01	**0.05**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**102**	**110**	**96.6**	**108**	**107**
13C8-PFOA	----	0.02	%		**94.1**	**94.6**	**97.2**	**98.1**	**100**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_QC109_220727	0939_SW028_220727	0939_SW009_220727	0939_SW032_220728	0939_SW033_220728
				Sampling date / time	27-Jul-2022 13:13	27-Jul-2022 13:18	27-Jul-2022 15:23	28-Jul-2022 13:29	28-Jul-2022 13:39
Compound	CAS Number	LOR	Unit		EM2214753-116	EM2214753-118	EM2214753-125	EM2214753-161	EM2214753-162
					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	**0.07**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_QC109_220727	0939_SW028_220727	0939_SW009_220727	0939_SW032_220728	0939_SW033_220728
				Sampling date / time	27-Jul-2022 13:13	27-Jul-2022 13:18	27-Jul-2022 15:23	28-Jul-2022 13:29	28-Jul-2022 13:39
Compound	CAS Number	LOR	Unit		EM2214753-116	EM2214753-118	EM2214753-125	EM2214753-161	EM2214753-162
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**0.08**	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.08**	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.08**	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**107**	**98.2**	**107**	**100**	**98.8**
13C8-PFOA	----	0.02	%		**93.4**	**99.6**	**94.1**	**97.1**	**95.1**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_SW010_220728	0939_QC112_220728	0939_SW058_220728	0939_SW011_220728	0939_SW078_220728
				Sampling date / time	28-Jul-2022 13:39	28-Jul-2022 13:40	28-Jul-2022 13:41	28-Jul-2022 14:23	28-Jul-2022 14:21
Compound	CAS Number	LOR	Unit		EM2214753-163	EM2214753-164	EM2214753-166	EM2214753-167	EM2214753-168
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	**0.05**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	**0.06**	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.02**	**0.02**	**0.02**	**0.43**	<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		**0.05**	**0.05**	**0.06**	**0.27**	<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	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	**0.02**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_SW010_220728	0939_QC112_220728	0939_SW058_220728	0939_SW011_220728	0939_SW078_220728
				Sampling date / time	28-Jul-2022 13:39	28-Jul-2022 13:40	28-Jul-2022 13:41	28-Jul-2022 14:23	28-Jul-2022 14:21
Compound	CAS Number	LOR	Unit		EM2214753-163	EM2214753-164	EM2214753-166	EM2214753-167	EM2214753-168
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.07**	**0.07**	**0.08**	**0.88**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.07**	**0.07**	**0.08**	**0.70**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.07**	**0.07**	**0.08**	**0.82**	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.2**	**99.7**	**97.2**	**99.0**	**98.7**
13C8-PFOA	----	0.02	%		**102**	**100**	**100**	**97.2**	**96.7**

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_QC113_220728	0939_SW059_220728	0939_SW062_220728	----	----
				Sampling date / time	28-Jul-2022 14:22	28-Jul-2022 14:25	28-Jul-2022 14:53	----	----
Compound	CAS Number	LOR	Unit		EM2214753-169	EM2214753-171	EM2214753-172	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	**0.02**	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.03**	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0939_QC113_220728	0939_SW059_220728	0939_SW062_220728	----	----
				Sampling date / time	28-Jul-2022 14:22	28-Jul-2022 14:25	28-Jul-2022 14:53	----	----
Compound	CAS Number	LOR	Unit		EM2214753-169	EM2214753-171	EM2214753-172	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	**0.05**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	**0.05**	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	**0.05**	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**99.4**	**108**	**118**	----	----
13C8-PFOA	----	0.02	%		**99.4**	**95.6**	**98.8**	----	----

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

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2214753**	Page	: 1 of 11
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Contact	: [redacted]
Address	[redacted]	Address	: [redacted]
Telephone	: ----	Telephone	:
Project	: SA_0939_PFASOMP	Date Samples Received	: 02-Aug-2022
Order number	: 60612561 6.1	Date Analysis Commenced	: 04-Aug-2022
C-O-C number	: 12765	Issue Date	: 09-Aug-2022
Sampler	: [redacted]		
Site	: SA_0939_PFASOMP		
Quote number	: SY/139/19 V3		
No. of samples received	: 148		
No. of samples analysed	: 143		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4498328)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	110	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	99.5	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	96.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	96.5	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	107	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	97.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4498329)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	100	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	94.4	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	92.5	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.4	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	90.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4498334)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	110	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	105	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	99.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	93.4	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4499043)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	95.7	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	101	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	106	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	98.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4499564)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	107	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	113	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	100	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	102	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	89.6	53.0	142

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4499575)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	102	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	110	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	107	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	103	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4501023)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	100	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	106	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	0.25 µg/L	96.7	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.6	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	93.7	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4501024)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	97.3	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	115	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	105	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	103	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	113	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4498328)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	101	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	102	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	103	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.7	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	113	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4498329)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	102	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	97.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.6	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: 4498329) - continued								
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	100	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	97.1	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	111	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4498334)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.5	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	98.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.9	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	108	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	96.5	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.7	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.5	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4499043)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	106	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	104	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.1	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	96.7	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.0	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: 4499564)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	104	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	105	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	98.4	71.0	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4499564) - continued								
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.7	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	122	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4499575)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	104	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	108	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	102	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	100	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	89.6	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	109	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4501023)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.5	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.5	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.3	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.0	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	79.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	113	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4501024)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	93.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	91.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4501024) - continued								
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.9	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	113	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4498328)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	128	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	119	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.4	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	111	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.9	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4498329)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	96.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	114	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	113	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	106	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	99.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4498334)								
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	124	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	123	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	95.6	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4499043)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4499043) - continued								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	99.1	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	117	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	104	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.0	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4499564)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	115	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	104	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	113	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.1	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4499575)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	90.8	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	80.9	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	105	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	92.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4501023)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	121	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	112	70.0	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4501023) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	95.6	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	105	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	104	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4501024)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	96.0	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	114	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	107	70.0	130
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.9	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	107	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	91.5	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4498328)								
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	107	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	108	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	89.9	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4498329)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	97.2	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	98.8	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	120	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	91.1	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4498334)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	95.2	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	104	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	117	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	97.7	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4499043)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	105	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	127	67.0	138

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4499043) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	93.7	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4499564)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	108	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	106	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	114	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	99.7	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4499575)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	99.7	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	115	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	88.6	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4501023)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	95.6	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	108	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	83.9	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4501024)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	100	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	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	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	84.2	70.0	130
EP231P: PFAS Sums (QCLot: 4498328)								
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: 4498329)								
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: 4498334)								
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: 4499043)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----

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
EP231P: PFAS Sums (QCLot: 4499043) - continued								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4499564)								
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: 4499575)								
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: 4501023)								
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: 4501024)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

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

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2214753**	Page	: 1 of 19
Amendment	: **1**		
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: [redacted]	Telephone	: [redacted]
Project	: SA_0939_PFASOMP	Date Samples Received	: 02-Aug-2022
Site	: SA_0939_PFASOMP	Issue Date	: 09-Aug-2022
Sampler	: [redacted]	No. of samples received	: 148
Order number	: 60612561 6.1	No. of samples analysed	: 143

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	158	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	158	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)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
0939_MW2112_220725,	0939_SW006_220725,	**25-Jul-2022**	**04-Aug-2022**	21-Jan-2023	✓	**04-Aug-2022**	21-Jan-2023	✓
0939_MW2137_220725,	0939_MW2185_220725,							
0939_MW2184_220725,	0939_MW2281_220725,							
0939_MW2286_220725,	0939_MW2182_220725,							
0939_MW2285_220725,	0939_MW2275_220725,							
0939_QC101_220725,	0939_MW2183_220725,							
0939_MW2180_220725,	0939_MW2177_220725,							
0939_MW2175_220725,	0939_MW2176_220725,							
0939_MW2173_220725,	0939_MW2172_220725,							
0939_MW2145_220725,	0939_MW2129_220725,							
0939_MW2169_220725,	0939_MW2139_220725,							
0939_MW2166_220725,	0939_MW2358_220725,							
0939_MW2126_220725,	0939_QC102_220725,							
0939_MW2411_220725,	0939_MW2394_220725,							
0939_MW2162_220725,	0939_QC103_220725,							
0939_MW2202_220725,	0939_MW2201_220725,							
0939_MW2203_220725,	0939_MW2197_220725,							
0939_MW2193_220725,	0939_MW2194_220725,							
0939_MW2150_220725,	0939_MW2189_220725,							
0939_QC302_220725,	0939_MW2188_220725,							
0939_MW4053_220725,	0939_MW2272_220725,							
0939_MW4068_220725,	0939_MW4048_220725,							
0939_MW4058_220725,	0939_MW2148_220725,							
0939_MW2158_220725,	0939_MW4078_220725,							
0939_MW2284_220725,	0939_MW4069_220725,							
0939_MW4222_220725,	0939_MW4045_220725,							
0939_MW4075_220725,	0939_MW4074_220725,							
0939_MW4001_220725,	0939_MW4071_220725							
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0939_QC301_220725, 0939_SW017_220726, 0939_QC104_220726, 0939_SW003_220726, 0939_MW2149_220726, 0939_MW2499_220726, 0939_MW2200_220726, 0939_MW2270_220726, 0939_MW2120_220726, 0939_MW2116_220726, 0939_QC105_220726, 0939_SW018_220726, 0939_SW019_220726, 0939_MW2490_220726, 0939_MW2130_220726, 0939_MW2209_220726, 0939_MW2114_220726, 0939_MW2157_220726, 0669_MW2325_220726, 0939_MW2218_220726, 0939_MW2134_220726, 0939_MW2501_220726, 0939_SW050_220726, 0939_SW054_220726, 0939_MW2216_220726, 0939_MW2135_220726, 0939_QC304_220726, 0939_MW2210_220726, 0939_MW2131_220726, 0939_MW2528_220726, 0939_SW021_220726-2, 0939_QC106_220726-1 **HDPE (no PTFE) (EP231X)**	**26-Jul-2022**	**04-Aug-2022**	22-Jan-2023	✓	**04-Aug-2022**	22-Jan-2023	✓
0939_SW012_220727, 0939_MW4013_220727, 0939_MW4061_220727, 0939_MW4065_220727, 0939_MW4021_220727, 0939_MW4020_220727, 0939_MW4009_220727, 0939_MW4022_220727, 0939_QC107_220727, 0939_QC108_220727, 0939_MW4024_220727, 0939_MW4023_220727, 0939_MW4060_220727, 0939_MW4077_220727, 0939_MW4059_220727, 0939_MW4218_220727, 0939_SW029_220727, 0939_QC109_220727, 0939_SW028_220727, 0939_MW2159_220727, 0939_MW4220_220727, 0939_MW4052_220727, 0939_MW4072_220727, 0939_MW4041_220727, 0939_MW4037_220727, 0939_SW009_220727, 0939_MW4055_220727, 0939_QC303_220727, 0939_MW4070_220725, 0939_MW4221_220725 **HDPE (no PTFE) (EP231X)**	**27-Jul-2022**	**04-Aug-2022**	23-Jan-2023	✓	**04-Aug-2022**	23-Jan-2023	✓
0939_MW4027_220727 **HDPE (no PTFE) (EP231X)**	**27-Jul-2022**	**05-Aug-2022**	23-Jan-2023	✓	**05-Aug-2022**	23-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
0939_MW4079_220728, 0939_MW4073_220728, 0939_MW4066_220728, 0939_MW4057_220728, 0939_QC110_220728, 0939_MW4015_220728, 0939_QC111_220728, 0939_MW4035_220728, 0939_MW4003_220728, 0939_MW4076_220728, 0939_MW4064_220728, 0939_MW4219_220728, 0939_SW032_220728, 0939_SW033_220728, 0939_SW010_220728, 0939_QC112_220728, 0939_SW058_220728, 0939_SW011_220728, 0939_SW078_220728, 0939_QC113_220728, 0939_SW059_220728, 0939_SW062_220728	**28-Jul-2022**	**05-Aug-2022**	24-Jan-2023	✓	**05-Aug-2022**	24-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC305_220728, 0939_MW4223_220729	**29-Jul-2022**	**05-Aug-2022**	25-Jan-2023	✓	**05-Aug-2022**	25-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2112_220725, 0939_SW006_220725, 0939_MW2137_220725, 0939_MW2185_220725, 0939_MW2184_220725, 0939_MW2281_220725, 0939_MW2286_220725, 0939_MW2182_220725, 0939_MW2285_220725, 0939_MW2275_220725, 0939_QC101_220725, 0939_MW2183_220725, 0939_MW2180_220725, 0939_MW2177_220725, 0939_MW2175_220725, 0939_MW2176_220725, 0939_MW2173_220725, 0939_MW2172_220725, 0939_MW2145_220725, 0939_MW2129_220725, 0939_MW2169_220725, 0939_MW2139_220725, 0939_MW2166_220725, 0939_MW2358_220725, 0939_MW2126_220725, 0939_QC102_220725, 0939_MW2411_220725, 0939_MW2394_220725, 0939_MW2162_220725, 0939_QC103_220725, 0939_MW2202_220725, 0939_MW2201_220725, 0939_MW2203_220725, 0939_MW2197_220725, 0939_MW2193_220725, 0939_MW2194_220725, 0939_MW2150_220725, 0939_MW2189_220725, 0939_QC302_220725, 0939_MW2188_220725, 0939_MW4053_220725, 0939_MW2272_220725, 0939_MW4068_220725, 0939_MW4048_220725, 0939_MW4058_220725, 0939_MW2148_220725, 0939_MW2158_220725, 0939_MW4078_220725, 0939_MW2284_220725, 0939_MW4069_220725, 0939_MW4222_220725, 0939_MW4045_220725, 0939_MW4075_220725, 0939_MW4074_220725, 0939_MW4001_220725, 0939_MW4071_220725	**25-Jul-2022**	**04-Aug-2022**	21-Jan-2023	✓	**04-Aug-2022**	21-Jan-2023	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids - Continued							
0939_QC301_220725, 0939_SW017_220726, 0939_QC104_220726, 0939_SW003_220726, 0939_MW2149_220726, 0939_MW2499_220726, 0939_MW2200_220726, 0939_MW2270_220726, 0939_MW2120_220726, 0939_MW2116_220726, 0939_QC105_220726, 0939_SW018_220726, 0939_SW019_220726, 0939_MW2490_220726, 0939_MW2130_220726, 0939_MW2209_220726, 0939_MW2114_220726, 0939_MW2157_220726, 0669_MW2325_220726, 0939_MW2218_220726, 0939_MW2134_220726, 0939_MW2501_220726, 0939_SW050_220726, 0939_SW054_220726, 0939_MW2216_220726, 0939_MW2135_220726, 0939_QC304_220726, 0939_MW2210_220726, 0939_MW2131_220726, 0939_MW2528_220726, 0939_SW021_220726-2, 0939_QC106_220726-1 **HDPE (no PTFE) (EP231X)**	**26-Jul-2022**	**04-Aug-2022**	22-Jan-2023	✓	**04-Aug-2022**	22-Jan-2023	✓
0939_SW012_220727, 0939_MW4013_220727, 0939_MW4061_220727, 0939_MW4065_220727, 0939_MW4021_220727, 0939_MW4020_220727, 0939_MW4009_220727, 0939_MW4022_220727, 0939_QC107_220727, 0939_QC108_220727, 0939_MW4024_220727, 0939_MW4023_220727, 0939_MW4060_220727, 0939_MW4077_220727, 0939_MW4059_220727, 0939_MW4218_220727, 0939_SW029_220727, 0939_QC109_220727, 0939_SW028_220727, 0939_MW2159_220727, 0939_MW4220_220727, 0939_MW4052_220727, 0939_MW4072_220727, 0939_MW4041_220727, 0939_MW4037_220727, 0939_SW009_220727, 0939_MW4055_220727, 0939_QC303_220727, 0939_MW4070_220725, 0939_MW4221_220725 **HDPE (no PTFE) (EP231X)**	**27-Jul-2022**	**04-Aug-2022**	23-Jan-2023	✓	**04-Aug-2022**	23-Jan-2023	✓
0939_MW4027_220727 **HDPE (no PTFE) (EP231X)**	**27-Jul-2022**	**05-Aug-2022**	23-Jan-2023	✓	**05-Aug-2022**	23-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids - Continued							
0939_MW4079_220728, 0939_MW4073_220728, 0939_MW4066_220728, 0939_MW4057_220728, 0939_QC110_220728, 0939_MW4015_220728, 0939_QC111_220728, 0939_MW4035_220728, 0939_MW4003_220728, 0939_MW4076_220728, 0939_MW4064_220728, 0939_MW4219_220728, 0939_SW032_220728, 0939_SW033_220728, 0939_SW010_220728, 0939_QC112_220728, 0939_SW058_220728, 0939_SW011_220728, 0939_SW078_220728, 0939_QC113_220728, 0939_SW059_220728, 0939_SW062_220728	**28-Jul-2022**	**05-Aug-2022**	24-Jan-2023	✓	**05-Aug-2022**	24-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC305_220728, 0939_MW4223_220729	**29-Jul-2022**	**05-Aug-2022**	25-Jan-2023	✓	**05-Aug-2022**	25-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0939_MW2112_220725,	0939_SW006_220725,	**25-Jul-2022**	**04-Aug-2022**	21-Jan-2023	✓	**04-Aug-2022**	21-Jan-2023	✓
0939_MW2137_220725,	0939_MW2185_220725,							
0939_MW2184_220725,	0939_MW2281_220725,							
0939_MW2286_220725,	0939_MW2182_220725,							
0939_MW2285_220725,	0939_MW2275_220725,							
0939_QC101_220725,	0939_MW2183_220725,							
0939_MW2180_220725,	0939_MW2177_220725,							
0939_MW2175_220725,	0939_MW2176_220725,							
0939_MW2173_220725,	0939_MW2172_220725,							
0939_MW2145_220725,	0939_MW2129_220725,							
0939_MW2169_220725,	0939_MW2139_220725,							
0939_MW2166_220725,	0939_MW2358_220725,							
0939_MW2126_220725,	0939_QC102_220725,							
0939_MW2411_220725,	0939_MW2394_220725,							
0939_MW2162_220725,	0939_QC103_220725,							
0939_MW2202_220725,	0939_MW2201_220725,							
0939_MW2203_220725,	0939_MW2197_220725,							
0939_MW2193_220725,	0939_MW2194_220725,							
0939_MW2150_220725,	0939_MW2189_220725,							
0939_QC302_220725,	0939_MW2188_220725,							
0939_MW4053_220725,	0939_MW2272_220725,							
0939_MW4068_220725,	0939_MW4048_220725,							
0939_MW4058_220725,	0939_MW2148_220725,							
0939_MW2158_220725,	0939_MW4078_220725,							
0939_MW2284_220725,	0939_MW4069_220725,							
0939_MW4222_220725,	0939_MW4045_220725,							
0939_MW4075_220725,	0939_MW4074_220725,							
0939_MW4001_220725,	0939_MW4071_220725							
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides - Continued							
0939_QC301_220725, 0939_SW017_220726, 0939_QC104_220726, 0939_SW003_220726, 0939_MW2149_220726, 0939_MW2499_220726, 0939_MW2200_220726, 0939_MW2270_220726, 0939_MW2120_220726, 0939_MW2116_220726, 0939_QC105_220726, 0939_SW018_220726, 0939_SW019_220726, 0939_MW2490_220726, 0939_MW2130_220726, 0939_MW2209_220726, 0939_MW2114_220726, 0939_MW2157_220726, 0669_MW2325_220726, 0939_MW2218_220726, 0939_MW2134_220726, 0939_MW2501_220726, 0939_SW050_220726, 0939_SW054_220726, 0939_MW2216_220726, 0939_MW2135_220726, 0939_QC304_220726, 0939_MW2210_220726, 0939_MW2131_220726, 0939_MW2528_220726, 0939_SW021_220726-2, 0939_QC106_220726-1	**26-Jul-2022**	**04-Aug-2022**	22-Jan-2023	✓	**04-Aug-2022**	22-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_SW012_220727, 0939_MW4013_220727, 0939_MW4061_220727, 0939_MW4065_220727, 0939_MW4021_220727, 0939_MW4020_220727, 0939_MW4009_220727, 0939_MW4022_220727, 0939_QC107_220727, 0939_QC108_220727, 0939_MW4024_220727, 0939_MW4023_220727, 0939_MW4060_220727, 0939_MW4077_220727, 0939_MW4059_220727, 0939_MW4218_220727, 0939_SW029_220727, 0939_QC109_220727, 0939_SW028_220727, 0939_MW2159_220727, 0939_MW4220_220727, 0939_MW4052_220727, 0939_MW4072_220727, 0939_MW4041_220727, 0939_MW4037_220727, 0939_SW009_220727, 0939_MW4055_220727, 0939_QC303_220727, 0939_MW4070_220725, 0939_MW4221_220725	**27-Jul-2022**	**04-Aug-2022**	23-Jan-2023	✓	**04-Aug-2022**	23-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4027_220727	**27-Jul-2022**	**05-Aug-2022**	23-Jan-2023	✓	**05-Aug-2022**	23-Jan-2023	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides - Continued							
0939_MW4079_220728, 0939_MW4073_220728, 0939_MW4066_220728, 0939_MW4057_220728, 0939_QC110_220728, 0939_MW4015_220728, 0939_QC111_220728, 0939_MW4035_220728, 0939_MW4003_220728, 0939_MW4076_220728, 0939_MW4064_220728, 0939_MW4219_220728, 0939_SW032_220728, 0939_SW033_220728, 0939_SW010_220728, 0939_QC112_220728, 0939_SW058_220728, 0939_SW011_220728, 0939_SW078_220728, 0939_QC113_220728, 0939_SW059_220728, 0939_SW062_220728	**28-Jul-2022**	**05-Aug-2022**	24-Jan-2023	✓	**05-Aug-2022**	24-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC305_220728, 0939_MW4223_220729	**29-Jul-2022**	**05-Aug-2022**	25-Jan-2023	✓	**05-Aug-2022**	25-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
0939_MW2112_220725,	**25-Jul-2022**	**04-Aug-2022**	21-Jan-2023	✓	**04-Aug-2022**	21-Jan-2023	✓
0939_MW2137_220725,							
0939_MW2184_220725,							
0939_MW2286_220725,							
0939_MW2285_220725,							
0939_QC101_220725,							
0939_MW2180_220725,							
0939_MW2175_220725,							
0939_MW2173_220725,							
0939_MW2145_220725,							
0939_MW2169_220725,							
0939_MW2166_220725,							
0939_MW2126_220725,							
0939_MW2411_220725,							
0939_MW2162_220725,							
0939_MW2202_220725,							
0939_MW2203_220725,							
0939_MW2193_220725,							
0939_MW2150_220725,							
0939_QC302_220725,							
0939_MW4053_220725,							
0939_MW4068_220725,							
0939_MW4058_220725,							
0939_MW2158_220725,							
0939_MW2284_220725,							
0939_MW4222_220725,							
0939_MW4075_220725,							
0939_MW4001_220725,							
0939_SW006_220725,							
0939_MW2185_220725,							
0939_MW2281_220725,							
0939_MW2182_220725,							
0939_MW2275_220725,							
0939_MW2183_220725,							
0939_MW2177_220725,							
0939_MW2176_220725,							
0939_MW2172_220725,							
0939_MW2129_220725,							
0939_MW2139_220725,							
0939_MW2358_220725,							
0939_QC102_220725,							
0939_MW2394_220725,							
0939_QC103_220725,							
0939_MW2201_220725,							
0939_MW2197_220725,							
0939_MW2194_220725,							
0939_MW2189_220725,							
0939_MW2188_220725,							
0939_MW2272_220725,							
0939_MW4048_220725,							
0939_MW2148_220725,							
0939_MW4078_220725,							
0939_MW4069_220725,							
0939_MW4045_220725,							
0939_MW4074_220725,							
0939_MW4071_220725							
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued							
0939_QC301_220725, 0939_SW017_220726, 0939_QC104_220726, 0939_SW003_220726, 0939_MW2149_220726, 0939_MW2499_220726, 0939_MW2200_220726, 0939_MW2270_220726, 0939_MW2120_220726, 0939_MW2116_220726, 0939_QC105_220726, 0939_SW018_220726, 0939_SW019_220726, 0939_MW2490_220726, 0939_MW2130_220726, 0939_MW2209_220726, 0939_MW2114_220726, 0939_MW2157_220726, 0669_MW2325_220726, 0939_MW2218_220726, 0939_MW2134_220726, 0939_MW2501_220726, 0939_SW050_220726, 0939_SW054_220726, 0939_MW2216_220726, 0939_MW2135_220726, 0939_QC304_220726, 0939_MW2210_220726, 0939_MW2131_220726, 0939_MW2528_220726, 0939_SW021_220726-2, 0939_QC106_220726-1	**26-Jul-2022**	**04-Aug-2022**	22-Jan-2023	✓	**04-Aug-2022**	22-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_SW012_220727, 0939_MW4013_220727, 0939_MW4061_220727, 0939_MW4065_220727, 0939_MW4021_220727, 0939_MW4020_220727, 0939_MW4009_220727, 0939_MW4022_220727, 0939_QC107_220727, 0939_QC108_220727, 0939_MW4024_220727, 0939_MW4023_220727, 0939_MW4060_220727, 0939_MW4077_220727, 0939_MW4059_220727, 0939_MW4218_220727, 0939_SW029_220727, 0939_QC109_220727, 0939_SW028_220727, 0939_MW2159_220727, 0939_MW4220_220727, 0939_MW4052_220727, 0939_MW4072_220727, 0939_MW4041_220727, 0939_MW4037_220727, 0939_SW009_220727, 0939_MW4055_220727, 0939_QC303_220727, 0939_MW4070_220725, 0939_MW4221_220725	**27-Jul-2022**	**04-Aug-2022**	23-Jan-2023	✓	**04-Aug-2022**	23-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4027_220727	**27-Jul-2022**	**05-Aug-2022**	23-Jan-2023	✓	**05-Aug-2022**	23-Jan-2023	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued							
0939_MW4079_220728, 0939_MW4073_220728, 0939_MW4066_220728, 0939_MW4057_220728, 0939_QC110_220728, 0939_MW4015_220728, 0939_QC111_220728, 0939_MW4035_220728, 0939_MW4003_220728, 0939_MW4076_220728, 0939_MW4064_220728, 0939_MW4219_220728, 0939_SW032_220728, 0939_SW033_220728, 0939_SW010_220728, 0939_QC112_220728, 0939_SW058_220728, 0939_SW011_220728, 0939_SW078_220728, 0939_QC113_220728, 0939_SW059_220728, 0939_SW062_220728	**28-Jul-2022**	**05-Aug-2022**	24-Jan-2023	✓	**05-Aug-2022**	24-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_QC305_220728, 0939_MW4223_220729	**29-Jul-2022**	**05-Aug-2022**	25-Jan-2023	✓	**05-Aug-2022**	25-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0939_MW2112_220725,	0939_SW006_220725,	**25-Jul-2022**	**04-Aug-2022**	21-Jan-2023	✓	**04-Aug-2022**	21-Jan-2023	✓
0939_MW2137_220725,	0939_MW2185_220725,							
0939_MW2184_220725,	0939_MW2281_220725,							
0939_MW2286_220725,	0939_MW2182_220725,							
0939_MW2285_220725,	0939_MW2275_220725,							
0939_QC101_220725,	0939_MW2183_220725,							
0939_MW2180_220725,	0939_MW2177_220725,							
0939_MW2175_220725,	0939_MW2176_220725,							
0939_MW2173_220725,	0939_MW2172_220725,							
0939_MW2145_220725,	0939_MW2129_220725,							
0939_MW2169_220725,	0939_MW2139_220725,							
0939_MW2166_220725,	0939_MW2358_220725,							
0939_MW2126_220725,	0939_QC102_220725,							
0939_MW2411_220725,	0939_MW2394_220725,							
0939_MW2162_220725,	0939_QC103_220725,							
0939_MW2202_220725,	0939_MW2201_220725,							
0939_MW2203_220725,	0939_MW2197_220725,							
0939_MW2193_220725,	0939_MW2194_220725,							
0939_MW2150_220725,	0939_MW2189_220725,							
0939_QC302_220725,	0939_MW2188_220725,							
0939_MW4053_220725,	0939_MW2272_220725,							
0939_MW4068_220725,	0939_MW4048_220725,							
0939_MW4058_220725,	0939_MW2148_220725,							
0939_MW2158_220725,	0939_MW4078_220725,							
0939_MW2284_220725,	0939_MW4069_220725,							
0939_MW4222_220725,	0939_MW4045_220725,							
0939_MW4075_220725,	0939_MW4074_220725,							
0939_MW4001_220725,	0939_MW4071_220725							
HDPE (no PTFE) (EP231X)								

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums - Continued							
0939_QC301_220725, 0939_SW017_220726, 0939_QC104_220726, 0939_SW003_220726, 0939_MW2149_220726, 0939_MW2499_220726, 0939_MW2200_220726, 0939_MW2270_220726, 0939_MW2120_220726, 0939_MW2116_220726, 0939_QC105_220726, 0939_SW018_220726, 0939_SW019_220726, 0939_MW2490_220726, 0939_MW2130_220726, 0939_MW2209_220726, 0939_MW2114_220726, 0939_MW2157_220726, 0669_MW2325_220726, 0939_MW2218_220726, 0939_MW2134_220726, 0939_MW2501_220726, 0939_SW050_220726, 0939_SW054_220726, 0939_MW2216_220726, 0939_MW2135_220726, 0939_QC304_220726, 0939_MW2210_220726, 0939_MW2131_220726, 0939_MW2528_220726, 0939_SW021_220726-2, 0939_QC106_220726-1	**26-Jul-2022**	**04-Aug-2022**	22-Jan-2023	✓	**04-Aug-2022**	22-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_SW012_220727, 0939_MW4013_220727, 0939_MW4061_220727, 0939_MW4065_220727, 0939_MW4021_220727, 0939_MW4020_220727, 0939_MW4009_220727, 0939_MW4022_220727, 0939_QC107_220727, 0939_QC108_220727, 0939_MW4024_220727, 0939_MW4023_220727, 0939_MW4060_220727, 0939_MW4077_220727, 0939_MW4059_220727, 0939_MW4218_220727, 0939_SW029_220727, 0939_QC109_220727, 0939_SW028_220727, 0939_MW2159_220727, 0939_MW4220_220727, 0939_MW4052_220727, 0939_MW4072_220727, 0939_MW4041_220727, 0939_MW4037_220727, 0939_SW009_220727, 0939_MW4055_220727, 0939_QC303_220727, 0939_MW4070_220725, 0939_MW4221_220725	**27-Jul-2022**	**04-Aug-2022**	23-Jan-2023	✓	**04-Aug-2022**	23-Jan-2023	✓
HDPE (no PTFE) (EP231X)							
0939_MW4027_220727	**27-Jul-2022**	**05-Aug-2022**	23-Jan-2023	✓	**05-Aug-2022**	23-Jan-2023	✓
HDPE (no PTFE) (EP231X)							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums - Continued								
0939_MW4079_220728,	0939_MW4073_220728,	**28-Jul-2022**	**05-Aug-2022**	24-Jan-2023	✓	**05-Aug-2022**	24-Jan-2023	✓
0939_MW4066_220728,	0939_MW4057_220728,							
0939_QC110_220728,	0939_MW4015_220728,							
0939_QC111_220728,	0939_MW4035_220728,							
0939_MW4003_220728,	0939_MW4076_220728,							
0939_MW4064_220728,	0939_MW4219_220728,							
0939_SW032_220728,	0939_SW033_220728,							
0939_SW010_220728,	0939_QC112_220728,							
0939_SW058_220728,	0939_SW011_220728,							
0939_SW078_220728,	0939_QC113_220728,							
0939_SW059_220728,	0939_SW062_220728							
HDPE (no PTFE) (EP231X)								
0939_QC305_220728,	0939_MW4223_220729	**29-Jul-2022**	**05-Aug-2022**	25-Jan-2023	✓	**05-Aug-2022**	25-Jan-2023	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	158	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	8	158	**5.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	8	158	**5.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	158	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

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

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

Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [redacted]

Customer: AECOM AUSTRALIA PTY LTD

Address: LEVEL 28 , 91 KING WILLIAM ST
ADELAIDE SA 5000

Email: [redacted]

Telephone:

Fax:

LABORATORY DETAILS

Lab: National Measurement Institute

Contact: [redacted]

Address:

Email:

Telephone:

Fax:

SAMPLE DETAILS

NMI Job Name: AECO04/220805

Total No. of Samples: 13

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N22/014859	12-AUG-2022	0939_QC201_220725	WATER RAAF BASE EDINBURGH 25/07/2022

N22/014860	12-AUG-2022	0939_QC202_220725	WATER RAAF BASE EDINBURGH 25/07/2022
N22/014861	12-AUG-2022	0939_QC203_220725	WATER RAAF BASE EDINBURGH 25/07/2022
N22/014862	12-AUG-2022	0939_QC204_220726	WATER RAAF BASE EDINBURGH 26/07/2022
N22/014863	12-AUG-2022	0939_QC205_220726	WATER RAAF BASE EDINBURGH 26/07/2022
N22/014864	12-AUG-2022	0939_QC206_220726	WATER RAAF BASE EDINBURGH 26/07/2022
N22/014865	12-AUG-2022	0939_QC207_220727	WATER RAAF BASE EDINBURGH 27/07/2022
N22/014866	12-AUG-2022	0939_QC208_220727	WATER RAAF BASE EDINBURGH 27/07/2022
N22/014867	12-AUG-2022	0939_QC209_220727	WATER RAAF BASE EDINBURGH 27/07/2022
N22/014868	12-AUG-2022	0939_QC210_220728	WATER RAAF BASE EDINBURGH 28/07/2022
N22/014869	12-AUG-2022	0939_QC211_220728	WATER RAAF BASE EDINBURGH 28/07/2022
N22/014870	12-AUG-2022	0939_QC212_220728	WATER RAAF BASE EDINBURGH 28/07/2022
N22/014871	12-AUG-2022	0939_QC213_220728	WATER RAAF BASE EDINBURGH 28/07/2022

SAMPLE RECEIVED CONDITION

Date samples received:	5-AUG-2022
Sample received in good order:	Yes
NMI Quotation no. provided:	
Client purchase order number:	60612561_6_1
Temperature of samples:	Chilled
Comments:	ALL OK
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptence of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions

REPORT OF ANALYSIS

Client	: [redacted]	**Job No.**	: AECO04/220805
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 05-AUG-2022
Attention	: [redacted]S	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/014859	0939_QC201_220725	WATER RAAF BASE EDINBURGH 25/07/2022
N22/014860	0939_QC202_220725	WATER RAAF BASE EDINBURGH 25/07/2022
N22/014861	0939_QC203_220725	WATER RAAF BASE EDINBURGH 25/07/2022
N22/014862	0939_QC204_220726	WATER RAAF BASE EDINBURGH 26/07/2022

Lab Reg No.		N22/014859	N22/014860	N22/014861	N22/014862	
Date Sampled		25-JUL-2022	25-JUL-2022	25-JUL-2022	26-JUL-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.031	0.030	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.21	0.15	0.084	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.022	0.020	0.013	<0.01	NR70
PFOA (335-67-1)	ug/L	0.11	0.030	0.021	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.041	0.10	0.063	<0.01	NR70
PFHxS (355-46-4)	ug/L	1.4	0.76	0.63	<0.01	NR70
PFHpS (375-92-8)	ug/L	0.017	0.036	0.019	<0.01	NR70
PFOS (1763-23-1)	ug/L	0.16	0.41	0.34	<0.02	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.014	0.091	0.060	<0.01	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/014859	N22/014860	N22/014861	N22/014862	
Date Sampled		25-JUL-2022	25-JUL-2022	25-JUL-2022	26-JUL-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.078	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	95	105	95	98	NR70
PFPeA (Surrogate Recovery)	%	95	110	99	102	NR70
PFHxA (Surrogate Recovery)	%	92	112	93	100	NR70
PFHpA (Surrogate Recovery)	%	97	112	91	95	NR70
PFOA (Surrogate Recovery)	%	98	109	94	98	NR70
PFNA (Surrogate Recovery)	%	89	100	96	101	NR70
PFDA (Surrogate Recovery)	%	93	102	91	100	NR70
PFUdA (Surrogate Recovery)	%	91	95	94	105	NR70
PFDoA (Surrogate Recovery)	%	80	93	84	103	NR70
PFTeDA (Surrogate Recovery)	%	83	97	88	92	NR70
PFHxDA (Surrogate Recovery)	%	101	112	102	135	NR70
FOUEA (Surrogate Recovery)	%	85	104	82	90	NR70
PFBS (Surrogate Recovery)	%	89	100	93	86	NR70
PFHxS (Surrogate Recovery)	%	95	112	93	96	NR70
PFOS (Surrogate Recovery)	%	96	99	97	95	NR70
PFOSA (Surrogate Recovery)	%	79	88	82	68	NR70
N-MeFOSA (Surrogate Recovery)	%	76	90	69	51	NR70
N-EtFOSA (Surrogate Recovery)	%	73	86	65	66	NR70
N-MeFOSAA (Surrogate Recovery)	%	86	92	123	108	NR70
N-EtFOSAA (Surrogate Recovery)	%	87	90	103	124	NR70
N-MeFOSE (Surrogate Recovery)	%	82	96	76	65	NR70
N-EtFOSE (Surrogate Recovery)	%	69	82	63	65	NR70
4:2 FTS (Surrogate Recovery)	%	94	103	124	114	NR70
6:2 FTS (Surrogate Recovery)	%	84	88	81	97	NR70
8:2 FTS (Surrogate Recovery)	%	78	81	123	115	NR70
8:2 diPAP (Surrogate Recovery)	%	79	95	92	139	NR70
Dates						
Date extracted		9-AUG-2022	9-AUG-2022	9-AUG-2022	9-AUG-2022	
Date analysed		10-AUG-2022	10-AUG-2022	10-AUG-2022	10-AUG-2022	

N22/014859
to
N22/014871

PFOS and PFHxS are quantified using a combined branched and linear standard,
linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.ô
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N >10.

[redacted]

30-AUG-2022

REPORT OF ANALYSIS

Report No. RN1363623

Client	: [redacted]	**Job No.**	: AECO04/220805
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 05-AUG-2022
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP		
Your Client Services Manager	: [redacted]n	**Phone**	: [redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/014863	0939_QC205_220726	WATER RAAF BASE EDINBURGH 26/07/2022
N22/014864	0939_QC206_220726	WATER RAAF BASE EDINBURGH 26/07/2022
N22/014865	0939_QC207_220727	WATER RAAF BASE EDINBURGH 27/07/2022
N22/014866	0939_QC208_220727	WATER RAAF BASE EDINBURGH 27/07/2022

Lab Reg No.		N22/014863	N22/014864	N22/014865	N22/014866	
Date Sampled		26-JUL-2022	26-JUL-2022	27-JUL-2022	27-JUL-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	120	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	180	0.045	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	860	0.20	<0.01	0.087	NR70
PFHpA (375-85-9)	ug/L	120	0.030	<0.01	0.011	NR70
PFOA (335-67-1)	ug/L	250	0.10	<0.01	0.023	NR70
PFNA (375-95-1)	ug/L	0.77	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	0.12	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	550	0.092	<0.01	0.041	NR70
PFHxS (355-46-4)	ug/L	4300	0.99	<0.01	0.56	NR70
PFHpS (375-92-8)	ug/L	220	0.084	<0.01	0.030	NR70
PFOS (1763-23-1)	ug/L	4000	1.5	<0.02	0.45	NR70
PFNS (68259-12-1)	ug/L	1.2	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	480	0.078	<0.01	0.026	NR70
PFOSA (754-91-6)	ug/L	3.8	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/014863	N22/014864	N22/014865	N22/014866	
Date Sampled		26-JUL-2022	26-JUL-2022	27-JUL-2022	27-JUL-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	1.1	0.027	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	0.12	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	101	93	96	105	NR70
PFPeA (Surrogate Recovery)	%	106	97	98	106	NR70
PFHxA (Surrogate Recovery)	%	97	84	93	101	NR70
PFHpA (Surrogate Recovery)	%	99	84	98	105	NR70
PFOA (Surrogate Recovery)	%	99	89	94	105	NR70
PFNA (Surrogate Recovery)	%	35	83	92	109	NR70
PFDA (Surrogate Recovery)	%	95	88	92	100	NR70
PFUdA (Surrogate Recovery)	%	116	85	83	111	NR70
PFDoA (Surrogate Recovery)	%	109	80	81	102	NR70
PFTeDA (Surrogate Recovery)	%	111	74	84	97	NR70
PFHxDA (Surrogate Recovery)	%	323	94	99	100	NR70
FOUEA (Surrogate Recovery)	%	108	79	81	95	NR70
PFBS (Surrogate Recovery)	%	85	82	89	96	NR70
PFHxS (Surrogate Recovery)	%	98	88	96	102	NR70
PFOS (Surrogate Recovery)	%	103	111	90	97	NR70
PFOSA (Surrogate Recovery)	%	90	75	84	94	NR70
N-MeFOSA (Surrogate Recovery)	%	206	60	67	79	NR70
N-EtFOSA (Surrogate Recovery)	%	194	60	65	75	NR70
N-MeFOSAA (Surrogate Recovery)	%	85	80	83	104	NR70
N-EtFOSAA (Surrogate Recovery)	%	106	83	83	99	NR70
N-MeFOSE (Surrogate Recovery)	%	254	69	78	84	NR70
N-EtFOSE (Surrogate Recovery)	%	212	56	65	72	NR70
4:2 FTS (Surrogate Recovery)	%	106	125	100	144	NR70
6:2 FTS (Surrogate Recovery)	%	141	81	84	84	NR70
8:2 FTS (Surrogate Recovery)	%	85	78	75	86	NR70
8:2 diPAP (Surrogate Recovery)	%	88	78	82	92	NR70
Dates						
Date extracted		9-AUG-2022	9-AUG-2022	9-AUG-2022	9-AUG-2022	
Date analysed		10-AUG-2022	10-AUG-2022	10-AUG-2022	10-AUG-2022	

N22/014865
Sample was re-analysed as per client request.

REPORT OF ANALYSIS

Lab Reg No.		N22/014863	N22/014864	N22/014865	N22/014866	
Date Sampled		26-JUL-2022	26-JUL-2022	27-JUL-2022	27-JUL-2022	
	Units					Method

[redacted]

30-AUG-2022

REPORT OF ANALYSIS

Client	: [redacted]	**Job No.**	: AECO04/220805
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 05-AUG-2022
Attention	: [redacted]	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP		
Your Client Services Manager	: Tim Reddan	**Phone**	: 0[redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/014867	0939_QC209_220727	WATER RAAF BASE EDINBURGH 27/07/2022
N22/014868	0939_QC210_220728	WATER RAAF BASE EDINBURGH 28/07/2022
N22/014869	0939_QC211_220728	WATER RAAF BASE EDINBURGH 28/07/2022
N22/014870	0939_QC212_220728	WATER RAAF BASE EDINBURGH 28/07/2022

Lab Reg No.	Units	N22/014867	N22/014868	N22/014869	N22/014870	Method
Date Sampled		27-JUL-2022	28-JUL-2022	28-JUL-2022	28-JUL-2022	
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	0.094	<0.05	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	0.097	<0.02	NR70
PFHxA (307-24-4)	ug/L	<0.01	<0.01	0.51	<0.01	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	0.058	<0.01	NR70
PFOA (335-67-1)	ug/L	<0.01	<0.01	0.15	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	<0.01	<0.01	0.39	<0.01	NR70
PFHxS (355-46-4)	ug/L	<0.01	0.044	3.8	0.019	NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01	0.19	<0.01	NR70
PFOS (1763-23-1)	ug/L	<0.02	0.055	5.3	0.059	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	<0.01	0.021	0.29	<0.01	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/014867	N22/014868	N22/014869	N22/014870	
Date Sampled		27-JUL-2022	28-JUL-2022	28-JUL-2022	28-JUL-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	105	95	96	104	NR70
PFPeA (Surrogate Recovery)	%	108	105	103	115	NR70
PFHxA (Surrogate Recovery)	%	92	88	99	97	NR70
PFHpA (Surrogate Recovery)	%	97	92	99	99	NR70
PFOA (Surrogate Recovery)	%	98	95	99	102	NR70
PFNA (Surrogate Recovery)	%	100	104	89	95	NR70
PFDA (Surrogate Recovery)	%	95	93	90	101	NR70
PFUdA (Surrogate Recovery)	%	86	92	93	95	NR70
PFDoA (Surrogate Recovery)	%	70	83	96	68	NR70
PFTeDA (Surrogate Recovery)	%	66	68	94	64	NR70
PFHxDA (Surrogate Recovery)	%	73	77	104	80	NR70
FOUEA (Surrogate Recovery)	%	80	83	92	90	NR70
PFBS (Surrogate Recovery)	%	94	91	100	94	NR70
PFHxS (Surrogate Recovery)	%	98	93	91	99	NR70
PFOS (Surrogate Recovery)	%	93	89	90	98	NR70
PFOSA (Surrogate Recovery)	%	68	75	91	72	NR70
N-MeFOSA (Surrogate Recovery)	%	57	57	72	63	NR70
N-EtFOSA (Surrogate Recovery)	%	51	51	72	54	NR70
N-MeFOSAA (Surrogate Recovery)	%	67	66	80	63	NR70
N-EtFOSAA (Surrogate Recovery)	%	62	66	93	59	NR70
N-MeFOSE (Surrogate Recovery)	%	58	59	86	60	NR70
N-EtFOSE (Surrogate Recovery)	%	48	48	70	50	NR70
4:2 FTS (Surrogate Recovery)	%	150	128	96	124	NR70
6:2 FTS (Surrogate Recovery)	%	102	96	88	94	NR70
8:2 FTS (Surrogate Recovery)	%	85	78	81	76	NR70
8:2 diPAP (Surrogate Recovery)	%	62	66	89	64	NR70
Dates						
Date extracted		9-AUG-2022	9-AUG-2022	9-AUG-2022	9-AUG-2022	
Date analysed		10-AUG-2022	10-AUG-2022	10-AUG-2022	10-AUG-2022	

REPORT OF ANALYSIS

Lab Reg No.		N22/014867	N22/014868	N22/014869	N22/014870	
Date Sampled		27-JUL-2022	28-JUL-2022	28-JUL-2022	28-JUL-2022	
	Units					Method

[redacted]

30-AUG-2022

[redacted]

REPORT OF ANALYSIS

Report No. RN1363623

Client	: [redacted]	**Job No.**	: AECO04/220805
		Quote No.	: QT-02018
		Order No.	: 60612561_6_1
		Date Received	: 05-AUG-2022
Attention	:	**Sampled By**	: CLIENT
Project Name	: SA_0939_PFASOMP		
Your Client Services Manager	: [redacted]	**Phone**	: 0[redacted]

Lab Reg No.	Sample Ref	Sample Description
N22/014871	0939_QC213_220728	WATER RAAF BASE EDINBURGH 28/07/2022

Lab Reg No.		N22/014871				
Date Sampled		28-JUL-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05				NR70
PFPeA (2706-90-3)	ug/L	<0.02				NR70
PFHxA (307-24-4)	ug/L	<0.01				NR70
PFHpA (375-85-9)	ug/L	<0.01				NR70
PFOA (335-67-1)	ug/L	<0.01				NR70
PFNA (375-95-1)	ug/L	<0.01				NR70
PFDA (335-76-2)	ug/L	<0.01				NR70
PFUdA (2058-94-8)	ug/L	<0.01				NR70
PFDoA (307-55-1)	ug/L	<0.01				NR70
PFTrDA (72629-94-8)	ug/L	<0.02				NR70
PFTeDA (376-06-7)	ug/L	<0.02				NR70
PFHxDA (67905-19-5)	ug/L	<0.02				NR70
PFODA (16517-11-6)	ug/L	<0.05				NR70
FOUEA (70887-84-2)	ug/L	<0.01				NR70
PFDS (335-77-3)	ug/L	<0.01				NR70
PFPeS (2706-91-4)	ug/L	<0.01				NR70
PFHxS (355-46-4)	ug/L	0.015				NR70
PFHpS (375-92-8)	ug/L	<0.01				NR70
PFOS (1763-23-1)	ug/L	<0.02				NR70
PFNS (68259-12-1)	ug/L	<0.01				NR70
PFBS (375-73-5)	ug/L	<0.01				NR70
PFOSA (754-91-6)	ug/L	<0.01				NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02				NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02				NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01				NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01				NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05				NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05				NR70
4:2 FTS (757124-72-4)	ug/L	<0.01				NR70
6:2 FTS (27619-97-2)	ug/L	<0.01				NR70

REPORT OF ANALYSIS

Lab Reg No.		N22/014871				
Date Sampled		28-JUL-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	103				NR70
PFPeA (Surrogate Recovery)	%	100				NR70
PFHxA (Surrogate Recovery)	%	96				NR70
PFHpA (Surrogate Recovery)	%	99				NR70
PFOA (Surrogate Recovery)	%	99				NR70
PFNA (Surrogate Recovery)	%	104				NR70
PFDA (Surrogate Recovery)	%	105				NR70
PFUdA (Surrogate Recovery)	%	90				NR70
PFDoA (Surrogate Recovery)	%	76				NR70
PFTeDA (Surrogate Recovery)	%	76				NR70
PFHxDA (Surrogate Recovery)	%	85				NR70
FOUEA (Surrogate Recovery)	%	80				NR70
PFBS (Surrogate Recovery)	%	94				NR70
PFHxS (Surrogate Recovery)	%	98				NR70
PFOS (Surrogate Recovery)	%	92				NR70
PFOSA (Surrogate Recovery)	%	78				NR70
N-MeFOSA (Surrogate Recovery)	%	66				NR70
N-EtFOSA (Surrogate Recovery)	%	60				NR70
N-MeFOSAA (Surrogate Recovery)	%	71				NR70
N-EtFOSAA (Surrogate Recovery)	%	78				NR70
N-MeFOSE (Surrogate Recovery)	%	67				NR70
N-EtFOSE (Surrogate Recovery)	%	55				NR70
4:2 FTS (Surrogate Recovery)	%	109				NR70
6:2 FTS (Surrogate Recovery)	%	87				NR70
8:2 FTS (Surrogate Recovery)	%	77				NR70
8:2 diPAP (Surrogate Recovery)	%	68				NR70
Dates						
Date extracted		9-AUG-2022				
Date analysed		10-AUG-2022				

[redacted]

30-AUG-2022

[redacted]

REPORT OF ANALYSIS

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1363581*
RN1361556 *RN1361583*

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.
Chemical Accreditation 198: 1[redacted]

Australian Government

National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM ASUTRALIA PTY LTD

NMI QA Report No: AECOM04/220805 **Sample Matrix:** Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	107	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	117	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	102	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	96	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	107	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFDoA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	108	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	109	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	108	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	116	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	108	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	101	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	97	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	106	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	106	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	105	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	106	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	106	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	108	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	115	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	115	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	112	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	90	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	84	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	127	NA

Results expressed in percentage (%) or ug/L wherever appropriate.
Acceptable Spike recovery is 50-150%.
Maximum acceptable RPDs on spikes and duplicates is 40%.
'NA ' = Not Applicable.
RPD= Relative Percentage Difference.

Signed: [redacted]

Organics Manager, NMI-North Ryde

Date: **12/08/2022**

Appendix F

Calibration Certificates

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (YSI PRO PLUS)

Plant Number: 1047346 **Serial Number:** 20L101812

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330437 330327	☑
Conductivity	12.88 mS/cm	12.88 mS/cm	—	343265	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air	10175	☑
ORP	240mV @ 20°C	240mV	—	337308 338782	☑

Battery Status 100 %	Temperature 16.9 °C
Electrodes Cleaned and Checked	

Note: Calibration solution traceability information is available upon request.

Checked By [redacted] Date: 22/11/22 Signed:

Accessories List:

User's Manual	pH Sensor	Conductivity/ Temp Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
User Guide	Stainless Steel Restrictor	Spare Batteries
Calibration Cup		

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235205 **Serial Number:** 267345

Probe Length: 100m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 9.7v	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By [redacted] Date: 22/07/22 Signed:

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

SINCE 1948 *Make your job EASY!*

[redacted]

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (YSI PRO PLUS)

Plant Number: 1086842 Serial Number: 21E103534

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	330433 350329	☑
Conductivity	12.88 mS/cm	12.88 mS/cm	—	343265	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.0% in Sodium Sulphite	% Saturation in Air	10175	☑
ORP	240mV @ 20°C	240mV	—	333305 338382	☑

Battery Status 100 %	Temperature 16.6 °C
Electrodes Cleaned and Checked	

Note: Calibration solution traceability information is available upon request.

Checked By [redacted] Date: 22/7/22 Signed:

Accessories List:

User's Manual	pH Sensor	Conductivity/ Temp Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
User Guide	Stainless Steel Restrictor	Spare Batteries
Calibration Cup		

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003842-9003846 - INTERFACE METER

Plant Number: 235275 **Serial Number:** 268021

Probe Length: 60m

ITEM	TEST	PASS	COMMENTS
Battery	Compartment / Capacity	☑ 8.7v	9v
Probe	Clean / Operation	☑	
Earth Lead	Check if equipped	☑	
Tape Check	Cleaned / Checked for cuts	☑	
Function test	At surface level	☑	

Checked By [redacted] Date: 22/07/22 Signed: [redacted]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box

SINCE 1948 *Make your job EASY!*

[redacted]

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Edinburgh PFAS OMP	**Project Number:**	60612561
Project Location:	Edinburgh	**Client:**	Department of Defence
PM Name:	JG	**Fieldwork Staff Name:**	JW

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

INSTRUMENT DETAILS

Supplier:	Konnords
Make and Model:	YSI
Serial Number:	10686342

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	28/7/22				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	Mv	% ~~ppm~~
Calibration Standard Concentration:	4	7	12880	240	100
Calibration Reading:	3.98	7.01	12300	241.6	94.2
Calibration Temperature:	12.3	13.6	12.9	12.4	11.6

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted] — Fieldwork Staff Signature

26/7/22 — Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Edinburgh PFAS OMP	**Project Number:**	60612561
Project Location:	Edinburgh	**Client:**	Department of Defence
PM Name:	JG	**Fieldwork Staff Name:**	

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

INSTRUMENT DETAILS

Supplier:	Kennards
Make and Model:	YSI
Serial Number:	18842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	29/7/22				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	MV ~~ppm~~	~~ppm~~
Calibration Standard Concentration:	4	7	12880	240.6	100
Calibration Reading:	3.96	6.99	11990	236.4	94.6
Calibration Temperature:	14.3	14.6	14.1	15.1	15.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted] 29/7/22

Date

Distribution: Project Central File

AECOM

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Edinburgh PFAS OMP	**Project Number:**	60612561
Project Location:	Edinburgh	**Client:**	Department of Defence
PM Name:	JG	**Fieldwork Staff Name:**	GM

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

INSTRUMENT DETAILS

Supplier:	Kennards
Make and Model:	451
Serial Number:	108842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	27/7/22				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ~~ppm~~	ppm ~~%~~
Calibration Standard Concentration:	4	7	12880	241.0	100
Calibration Reading:	4.06	7.02	11852	239.7	93.1
Calibration Temperature:	14.7	15.1	15.0	15.0	14.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

☐ Each indiv[redacted]alibrated daily and bump tested as required by fieldwork staff.

[redacted] 27/7/22
Date

Distribution: Project Central File

ANZ

AECOM

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Edinburgh PFAS OMP	**Project Number:**	60612561
Project Location:	Edinburgh	**Client:**	Department of Defence
PM Name:	JG	**Fieldwork Staff Name:**	GM | NW

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

INSTRUMENT DETAILS

Supplier:	~~Kemards~~
Make and Model:	YSI
Serial Number:	1086842

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	26/7/22				
Parameter	Acidity		Conductivity	ORP | Dissolved Oxygen	
Units	pH	pH	µS/cm	~~MV~~ ~~ppm~~	~~ppm~~ %
Calibration Standard Concentration:	4	7	~~12880~~ 12880	240.5	100
Calibration Reading:	4.02	7.05	1163.1	248.0	89.9
Calibration Temperature:	11.4	10.5	10.2	10.9	10.7

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

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

Approval and Distribution

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

[redacted] 26/7/22

Date

Distribution: Project Central File

Appendix D

Analytical Tables

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2112	23/03/2020	Q1	8.33	5.346	10.531	Sediment on IP	7.16	1006.0	603.6	3.92	20.4	114.5	318.1	Clear Low turbidity No odour
MW2112	21/07/2020	Q1	8.33	4.360	11.517	Sediment on IP	8.32	1035.2	621.12	3.51	18.3	-126.8	78.9	Light yellow, low turbidity, no odour
MW2112	14/01/2021	Q1	8.34	7.740	8.137	Good condition	8.16	1042.8	625.68	1.90	22.7	-79.8	121.5	Clear, Low Turbidity, No odour
MW2112	12/08/2021	Q1	8.34	4.116	11.761	Good condition	7.90	1056.4	686.66	1.66	20.0	-16.3	187.7	Light Brown, Low Turbidity, No odour
MW2112	01/02/2022	Q1	8.49	4.451	11.426	Good condition	8.35	932.7	606.255	3.54	24.6	-103.5	95.9	Light Brown, Low Turbidity, No odour
MW2112	25/07/2022	Q1	8.49	3.074	12.803	Good condition	7.96	2400.0	1560.0	1.90	17.3	60.7	267.4	Light Brown, No odour, Low Turbidity
MW2114	25/03/2020	Q1	8.96	6.107	11.590	Sediment on IP	7.12	13786.0	8271.6	2.40	21.3	146.4	349.1	Yellow/brown Low turbidity No odour
MW2114	21/07/2020	Q1	8.96	5.368	12.329	Sediment on IP	7.39	14689.0	8813.4	3.82	19.7	-107.9	96.4	Clear, low turbidity, organic odour
MW2114	12/01/2021	Q1	8.86	5.385	12.312	Good condition	7.31	14805.2	8883.12	2.57	21.9	-72.3	129.8	Light Yellow, Low to Medium Turbidity, No Odour
MW2114	02/08/2021	Q1	8.86	5.168	12.529	Good condition	7.40	14885.6	9675.64	3.80	18.4	-101.2	104.4	Grey / Brown, Low Turbidity, Slight Organic Odour
MW2114	01/02/2022	Q1	9.00	5.088	12.609	Good condition	7.42	14371.1	9341.215	3.84	20.8	-43.1	160.1	Light Brown, Low Turbidity, No odour
MW2114	26/07/2022	Q1	9.00	4.872	12.825	Good condition	7.01	10581.0	6877.0	0.92	18.3	-109.2	96.5	Light Brown, No odour, Low Turbidity
MW2116	24/03/2020	Q1	8.26	6.421	10.557	Sediment on IP	7.09	9776.0	5865.6	3.04	20.5	177.5	381.1	Light Brown Low turbidity No odour
MW2116	20/07/2020	Q1	8.26	4.845	12.133	Sediment on IP	7.47	9410.8	5646.48	2.34	20.0	27.8	231.8	Light brown, low turbidity, no odour
MW2116	12/01/2021	Q1	9.03	4.745	12.233	Good condition	8.96	-	-	4.68	19.8	-39.6	164.6	Light Yellow, Low Turbidity, No odour. EC field transcription error.
MW2116	02/08/2021	Q1	9.03	4.529	12.449	Good condition	7.09	5993.4	3895.7	4.38	17.3	213.5	420.2	Light Brown, Medium Turbidity, No odour
MW2116	04/02/2022	Q1	8.40	4.390	12.588	Good condition	7.62	5945.9	3864.835	1.54	20.7	-19.9	183.4	Light Brown, Medium Turbidity, No odour
MW2116	26/07/2022	Q1	8.40	4.171	12.807	Good condition	7.57	5363.0	3485.0	1.29	18.2	-48.5	157.3	Light Brown, No odour, Low Turbidity
MW2118	17/03/2020	Q1	8.87	6.205	11.124	Good condition							Gauged only	
MW2118	20/07/2020	Q1	8.87	-	-	Dry							Gauged only	
MW2118	14/01/2021	Q1	8.95	5.795	11.534	Good condition							Gauged only	
MW2118	13/08/2021	Q1	8.95	5.610	11.719	Good condition							Gauged only	
MW2118	01/02/2022	Q1	8.79	5.554	11.775	Good condition							Gauged only	
MW2118	25/07/2022	Q1	8.79	5.370	11.959	Good condition							Gauged only	
MW2120	23/03/2020	Q1	6.25	4.025	14.155	Sediment on IP	8.21	1315.0	789.0	4.60	20.6	82.7	286.1	Brown Low turbidity No odour
MW2120	20/07/2020	Q1	6.25	3.580	14.560	Sediment on IP	8.37	1040.3	624.18	3.09	16.8	-5.0	202.2	Light yellow, medium turbidity, no odour
MW2120	11/01/2021	Q1	6.25	3.845	14.335	Good condition	7.52	1188.9	713.34	2.53	36.5	-30.4	157.1	Light Brown, Low Turbidity, No odour
MW2120	13/08/2021	Q1	6.25	3.325	14.855	Good condition	9.04	1249.3	812.045	3.62	17.1	-82.0	124.9	Light Brown, Medium Turbidity, No odour
MW2120	31/01/2022	Q1	6.22	3.727	14.453	Good condition	7.65	1165.0	757.25	3.30	25.9	-52.4	145.7	Light Brown, Low Turbidity, No odour
MW2120	26/07/2022	Q1	6.22	3.405	14.775	Good condition	7.96	914.0	594.0	3.65	17.9	-129.8	76.3	Light Brown, No odour, Low Turbidity
MW2126	22/03/2020	Q2	17.53	8.152	11.999	Sediment on IP	6.64	10830.0	6498.0	2.78	19.5	149.4	353.9	Brown Medium turbidity No odour
MW2126	20/07/2020	Q2	17.53	7.925	12.226	Sediment on IP	7.05	11670.2	7002.12	1.81	17.8	-66.6	139.6	Clear, low turbidity, organic odour
MW2126	11/01/2021	Q2	17.28	7.775	12.376	Good condition	7.13	11933.0	7159.8	1.47	26.4	-50.7	146.9	Brown, Medium Turbidity, Slight Organic Odour
MW2126	12/08/2021	Q2	17.28	7.866	12.285	Good condition	7.04	11605.3	7543.445	2.94	19.5	-45.3	159.2	Clear, Low Turbidity, No odour
MW2126	01/02/2022	Q2	17.28	7.618	12.533	Good condition	7.16	11493.8	7470.97	4.07	21.6	62.4	264.8	Clear, Turbid, No odour
MW2126	25/07/2022	Q2	17.28	7.473	12.678	Good condition	7.17	9064.0	5891.0	1.62	18.9	-120.3	84.8	Light Brown, No odour, Low Turbidity
MW2129	23/03/2020	Q1	6.40	5.312	10.568	Good condition	7.49	2742.0	1645.2	4.09	20.0	138.1	342.1	Light Brown Low turbidity Slight Organic Odour
MW2129	20/07/2020	Q1	6.40	4.922	10.959	Good condition	8.53	3380.7	2028.42	6.22	19.2	-115.0	89.8	Light brown, medium turbidity, no odour
MW2129	11/01/2021	Q1	6.37	4.898	10.983	Good condition	7.98	3102.0	1861.2	4.42	24.9	-73.7	125.4	Light Brown, Low Turbidity, No odour
MW2129	12/08/2021	Q1	6.37	4.792	11.089	Good condition	7.84	4192.3	2724.995	3.28	20.2	7.1	210.9	Light Brown, Low Turbidity, No odour
MW2129	31/01/2022	Q1	6.39	4.736	11.145	Good condition	7.87	4419.3	2872.545	1.32	28.4	-27.5	168.1	Black / Grey, Low Turbidity, No odour
MW2129	25/07/2022	Q1	6.39	4.469	11.412	Good condition	7.88	3293.0	2140.0	2.16	19.1	-35.7	169.2	Light Grey, No odour, Low Turbidity
MW2130	24/03/2020	Q1	8.38	5.775	11.708	Good condition	7.80	2430.0	1458.0	3.25	20.3	117.8	321.5	Light Grey Low turbidity No odour
MW2130	20/07/2020	Q1	8.38	4.820	12.663	Good condition	7.17	3066.5	1839.9	4.55	17.3	96.1	302.8	Light yellow, low turbidity, no odour
MW2130	12/01/2021	Q1	8.38	4.875	12.608	Good condition	8.65	2938.6	1763.16	1.82	19.1	-122.5	82.4	Light Brown, Low to Medium turbidity, Slight Organic Odour
MW2130	02/08/2021	Q1	8.38	4.280	13.203	Good condition	7.98	3491.0	2269.15	2.11	17.3	170.0	376.7	Clear, Low Turbidity, No odour
MW2130	01/02/2022	Q1	8.22	4.331	13.152	Good condition	8.06	3011.7	1957.605	2.74	22.8	-3.5	197.7	Clear, Low Turbidity, No odour
MW2130	26/07/2022	Q1	8.22	4.208	13.275	Good condition	8.00	2583.0	1678.0	1.18	18.7	-33.6	171.7	Clear, No odour, Low Turbidity
MW2131	25/03/2020	Q1	8.51	6.405	11.653	Good condition	8.23	1050.0	630.0	4.26	21.0	92.6	295.6	Clear Low turbidity No odour
MW2131	21/07/2020	Q1	8.51	5.703	12.355	Good condition	7.14	12750.7	7650.42	3.02	19.6	-136.3	68.1	Black, medium turbidity, organic odour
MW2131	12/01/2021	Q1	8.45	5.700	12.358	Good condition	8.19	1053.2	631.92	4.34	21.1	-47.2	155.7	Light Yellow, Low turbidity, Slight Organic Odour
MW2131	02/08/2021	Q1	8.45	5.320	12.738	Good condition	8.06	1431.0	930.15	5.60	18.2	4.0	209.8	Clear, Low Turbidity, No odour
MW2131	01/02/2022	Q1	8.55	5.381	12.677	Good condition	8.36	1114.1	724.165	3.68	21.9	-50.2	151.9	Light Brown, Low Turbidity, No odour
MW2131	26/07/2022	Q1	8.55	5.027	13.031	Good condition	8.40	664.0	431.0	3.82	18.3	-62.8	142.9	Clear, No odour, Low Turbidity
MW2134	20/03/2020	Q1	10.89	8.434	11.282	Sediment on IP	7.00	7591.0	4554.6	2.41	21.4	94.1	296.7	Clear Low turbidity No odour
MW2134	21/07/2020	Q1	10.89	7.488	12.228	Sediment on IP	7.49	9010.1	5406.06	3.55	19.7	-245.5	-41.2	Clear, low turbidity, organic odour
MW2134	12/01/2021	Q1	10.83	8.905	10.811	Good condition	7.62	7824.1	4694.46	2.64	22.6	-21.0	180.4	Light Brown, Medium turbditiy, No odour
MW2134	02/08/2021	Q1	10.83	6.826	12.890	Good condition	7.51	10999.0	7149.35	3.19	17.4	5.4	212.0	Light Brown, Low Turbidity, No odour
MW2134	02/02/2022	Q1	10.80	7.431	12.285	Good condition	7.21	11058.5	7188.025	3.95	21.5	-16.1	186.4	Clear, Low Turbidity, No odour
MW2134	26/07/2022	Q1	10.80	6.870	12.846	Good condition	7.11	8155.0	5300.0	0.83	20.5	-190.0	13.5	Light Brown, No odour, Low Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2135	24/03/2020	Q1	11.80	8.024	12.480	Good condition	7.09	11619.0	6971.4	3.90	20.7	149.2	352.5	Brown Medium turbidity No odour
MW2135	21/07/2020	Q1	11.80	7.525	12.979	Good condition	7.65	5465.5	3279.3	5.83	19.8	92.6	296.8	Light yellow, low turbidity, no odour
MW2135	12/01/2021	Q1	10.97	7.575	12.929	Good condition	7.17	11001.1	6600.66	2.80	23.5	39.3	239.8	Brown, Medium turbidity, No odour
MW2135	02/08/2021	Q1	10.97	7.422	13.082	Good condition	7.18	10726.0	6971.9	3.11	18.8	169.4	374.6	Light Brown, Low Turbidity, No odour
MW2135	02/02/2022	Q1	11.00	6.271	14.233	Good condition	7.20	10366.8	6738.42	2.54	18.9	8.0	213.1	Light Yellow, Low Turbidity, No odour
MW2135	26/07/2022	Q1	11.00	7.000	13.504	Good condition	7.14	7781.0	5057.0	0.94	19.5	-14.5	190.0	Orange / Brown, No odour, Medium Turbidity
MW2137	23/03/2020	Q1	8.01	4.276	11.492	Good condition	6.99	3373.0	2023.8	3.15	22.0	131.2	333.2	Light Brown Low turbidity No odour
MW2137	21/07/2020	Q1	8.01	3.345	12.446	Good condition	8.35	2405.2	1443.12	2.69	19.7	-104.1	100.2	Clear, low turbidity, organic odour
MW2137	11/01/2021	Q1	8.19	4.270	11.521	Good condition	6.16	3506.5	2103.9	3.62	25.6	236.8	435.2	Light Yellow, Low Turbidity, No odour
MW2137	12/08/2021	Q1	8.19	3.042	12.749	Good condition	7.83	2550.4	1657.76	4.38	19.9	4.9	209.1	Light Brown, Low Turbidity, No odour
MW2137	31/01/2022	Q1	8.06	3.513	12.278	Good condition	6.39	2746.9	1785.485	3.05	24.4	211.2	410.8	Light Brown, Low Turbidity, No odour
MW2137	25/07/2022	Q1	8.06	3.982	11.809	Good condition	7.97	730.0	474.0	2.60	18.1	82.6	288.5	Clear, No odour, Low Turbidity
MW2139	23/03/2020	Q1	11.35	7.319	11.334	Good condition	6.47	12202.0	7321.2	2.89	19.4	183.6	388.2	Brown Medium turbidity dirt/sediment odour
MW2139	21/07/2020	Q1	11.35	7.010	11.643	Good condition	8.99	964.6	578.8	5.77	19.6	-39.4	165.0	Clear, low turbidity, no odour
MW2139	11/01/2021	Q1	11.33	6.940	11.713	Good condition	7.21	13344.8	8006.9	2.99	25.6	24.8	223.2	Light Brown, Low Turbidity, No odour
MW2139	12/08/2021	Q1	11.33	6.937	11.716	Good condition	7.14	13134.4	8537.4	2.37	19.8	-136.7	67.6	Light Brown, Medium Turbidity, No odour
MW2139	31/01/2022	Q1	11.30	6.819	11.834	Good condition	7.06	13655.0	8875.75	3.62	28.7	-47.3	148.0	Light Brown, Turbid, Organic Odour
MW2139	25/07/2022	Q1	11.30	6.649	12.004	Good condition	7.06	10226.0	6646.0	2.00	20.2	-4.2	199.6	Brown, No odour, Medium Turbidity
MW2145	23/03/2020	Q2	27.50	5.225	10.613	Good condition	6.46	7771.0	4662.6	3.57	19.1	170.9	375.8	Clear Low turbidity Organic Odour
MW2145	21/07/2020	Q2	27.50	4.835	11.005	Good condition	7.44	10280.8	6168.5	2.93	20.1	-47.1	156.8	Light brown, low turbidity, no odour
MW2145	11/01/2021	Q2	25.00	4.825	11.015	Good condition	7.45	9585.2	5751.12	3.55	26.0	-172.4	25.6	Clear, Low Turbidity, Organic Odour
MW2145	12/08/2021	Q2	25.00	4.703	11.137	Good condition	7.30	8948.5	5816.5	5.60	20.3	-180.3	23.5	Light Brown, Low Turbidity, No odour
MW2145	31/01/2022	Q2	25.35	4.655	11.185	Good condition	7.36	8394.6	5456.5	1.81	26.5	-191.5	6.0	Light Brown, Low Turbidity, No odour
MW2145	25/07/2022	Q2	25.35	4.366	11.474	Good condition	7.09	6584.0	4279.0	1.76	19.4	-0.9	203.7	Light Brown, Slight Organic Odour, Low Turbidity
MW2148	25/03/2020	Q1	10.39	6.132	10.358	Sediment on IP	7.82	5873.0	3523.8	2.55	22.9	111.4	312.5	Light Brown Low turbidity No odour
MW2148	21/07/2020	Q1	10.39	5.075	11.415	Sediment on IP	7.32	12458.7	7475.22	3.74	19.7	-92.0	112.3	Light brown, medium turbidity, no odour
MW2148	12/01/2021	Q1	10.36	5.240	11.250	Good condition	7.62	7680.6	4608.36	3.65	31.1	18.6	211.5	Clear, Low Turbidity, Organic Odour
MW2148	02/08/2021	Q1	10.36	4.659	11.831	Good condition	9.76	6012.0	3907.8	5.02	18.8	110.8	316.0	Light Brown, Low Turbidity, No odour
MW2148	31/01/2022	Q1	10.40	4.835	11.655	Good condition	9.61	7402.0	4811.3	6.52	24.5	2.8	202.3	Light Brown, Low Turbidity, No odour
MW2148	25/07/2022	Q1	10.40	4.730	11.760	Good condition	8.46	3262.0	2120.0	3.49	20.1	47.2	251.1	Light Brown, Low Turbidity, No Odour
MW2149	23/03/2020	Q1	7.30	5.696	10.930	Sediment on IP	7.09	5228.0	3136.8	5.50	21.1	140.0	343.0	Clear Low turbidity No odour
MW2149	22/07/2020	Q1	7.30	4.548	12.078	Sediment on IP	12.30	9473.6	5684.16	1.76	20.2	-166.3	37.5	Clear, low turbidity, no odour
MW2149	14/01/2021	Q1	7.38	4.895	11.731	Good condition	7.83	5241.0	3144.6	7.70	22.6	80.2	281.6	Light Brown, Medium turbidity, No odour
MW2149	12/08/2021	Q1	7.38	4.216	12.410	Good condition	7.53	4852.4	3154.06	5.48	18.1	28.8	234.7	Light Brown, Low Turbidity, No odour
MW2149	01/02/2022	Q1	7.55	4.524	12.102	Good condition	7.91	4145.9	2694.835	7.40	21.9	-46.2	155.9	Light Brown, Medium Turbidity, No odour
MW2149	26/07/2022	Q1	7.55	4.103	12.523	Good condition	7.87	2780.0	1807.0	6.16	17.5	34.4	240.9	Clear, No odour, Low Turbidity
MW2150	23/03/2020	Q1	8.06	5.230	9.643	Sediment on IP, covered in vegetation	7.07	2107.0	1264.2	2.09	19.2	141.7	346.5	Light Brown Low turbidity Organic Odour
MW2150	21/07/2020	Q1	8.06	4.475	10.398	Good condition	8.04	2416.6	1449.96	5.58	18.7	-48.9	156.4	Light yellow, low turbidity, organic odour
MW2150	5/02/2021	Q1	7.97	4.724	10.149	Buried in grass cuttings	7.53	2353.3	1411.98	3.68	19.3	138.2	342.9	Light Yellow, Low Turbidity, No odour
MW2150	12/08/2021	Q1	7.97	4.100	10.773	Good condition	7.54	3506.0	2278.9	2.98	19.8	-46.8	157.4	Grey / Brown, Medium Turbidity, No odour
MW2150	01/02/2022	Q1	8.17	4.285	10.588	Good condition	7.67	3315.7	2155.205	1.02	23.6	-64.5	135.9	Clear, Low Turbidity, No odour
MW2150	25/07/2022	Q1	8.17	3.984	10.889	Good condition	7.66	2436.0	1583.0	1.10	19.1	-163.9	41.0	Light Brown, No odour, Low Turbidity
MW2156	19/03/2020	Q1	9.90	7.621	12.152	Sediment on IP							Gauged only	
MW2156	21/07/2020	Q1	9.90	7.270	12.503	Sediment on IP							Gauged only	
MW2156	12/01/2021	Q1	9.05	7.100	12.673	Good condition							Gauged only	
MW2156	02/08/2021	Q1	9.05	6.875	12.898	Good condition							Gauged only	
MW2156	02/02/2022	Q1	9.14	6.633	13.140	Good condition							Gauged only	
MW2156	25/07/2022	Q1	9.14	6.074	13.699	Good condition							Gauged only	
MW2157	25/03/2020	Q2	18.44	6.162	11.615	Good condition	7.62	8843.0	5305.8	2.88	21.0	134.1	337.1	Clear Low turbidity No odour
MW2157	21/07/2020	Q2	18.44	5.403	12.321	Good condition	8.04	9039.9	5423.94	3.34	19.2	-214.7	-9.9	Clear, low turbidity, organic odour
MW2157	12/01/2021	Q2	18.23	5.425	12.352	Good condition	7.70	9193.1	5515.86	3.66	22.2	-149.6	52.2	Clear, Low Turbidity, No odour
MW2157	02/08/2021	Q2	18.23	4.517	13.260	Good condition	7.31	8726.0	5671.9	4.35	18.3	-211.2	-5.5	Grey, Low Turbidity, Organic Odour
MW2157	01/02/2022	Q2	18.50	5.103	12.674	Good condition	7.58	9296.3	6042.595	2.52	22.2	-206.5	-4.7	Clear, Low Turbidity, No odour
MW2157	26/07/2022	Q2	18.50	4.852	12.925	Good condition	7.56	7461.0	4849.0	0.99	19.5	-246.3	-41.8	Clear, No odour, Low Turbidity
MW2158	25/03/2020	Q2	18.47	6.151	10.347	Good condition	7.41	7399.0	4439.4	1.81	21.8	123.0	325.2	Clear Low turbidity No odour
MW2158	21/07/2020	Q2	18.47	5.085	11.413	Good condition	7.97	6915.0	4149.0	3.74	19.6	-236.6	-32.2	Black, medium turbidity, organic odour
MW2158	12/01/2021	Q2	17.85	5.265	11.233	Good condition	7.37	8100.3	4860.2	2.72	24.0	3.6	203.6	Clear, Low Turbidity, No odour
MW2158	02/08/2021	Q2	17.85	4.685	11.813	Good condition	8.62	7875.0	5118.8	4.28	17.6	204.8	411.2	Light Brown, Low Turbidity, No odour
MW2158	31/01/2022	Q2	17.80	4.860	11.638	Good condition	7.95	7878.0	5120.7	4.20	25.4	41.3	239.9	Light Brown, Low Turbidity, No odour
MW2158	25/07/2022	Q2	17.80	4.745	11.753	Good condition	8.57	5837.0	3794.0	3.50	19.6	12.0	216.4	Light Brown, Low Turbidity, No Odour

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2159	24/03/2020	Q1	9.43	7.811	12.667	Sediment on IP	7.01	11151.0	6690.6	3.65	20.0	180.0	384.0	Clear Low turbidity No odour
MW2159	23/07/2020	Q1	9.43	7.605	12.873	Sediment on IP	7.70	12450.6	7470.4	3.89	19.3	120.0	324.8	Brown, medium turbidity, no odour
MW2159	14/01/2021	Q1	8.50	7.455	13.023	Good condition	7.47	12244.0	7346.4	3.91	22.1	-10.5	191.4	Clear, Low Turbidity, No odour
MW2159	02/08/2021	Q1	8.50	7.617	12.861	Good condition	7.07	12793.0	8315.5	2.68	17.1	-58.3	148.7	Grey, Low Turbidity, Slight Organic Odour
MW2159	02/02/2022	Q1	10.59	7.285	13.193	Good condition	7.63	11882.6	7723.7	2.06	21.8	-129.9	72.3	Light Grey, Low Turbidity, No odour
MW2159	27/07/2022	Q1	10.59	7.219	13.259	Good condition	7.40	9008.0	5855.0	1.57	17.8	-22.5	183.7	Clear, No odour, Low Turbidity
MW2160	18/03/2020	Q2	23.60	7.765	12.668	Good condition							Gauged only	
MW2160	24/07/2020	Q2	23.60	7.490	12.943	Good condition							Gauged only	
MW2160	14/01/2021	Q2	22.50	7.425	13.008	Good condition							Gauged only	
MW2160	02/08/2021	Q2	22.50	7.454	12.979	Good condition							Gauged only	
MW2160	02/02/2022	Q2	23.89	7.454	7.229	Good condition							Gauged only	
MW2160	25/07/2022	Q2	23.89	7.106	13.327	Good condition							Gauged only	
MW2162	22/03/2020	Q2	21.23	7.989	11.732	Good condition	6.73	8549.0	5129.4	1.85	20.4	105.0	308.6	Light Grey Low turbidity Organic Odour
MW2162	20/07/2020	Q2	21.23	7.643	12.078	Good condition	7.33	9926.7	5956.0	2.66	19.1	-226.8	-21.9	Black, low turbidity, organic odour
MW2162	11/01/2021	Q2	21.00	7.492	12.229	Good condition	7.25	10386.4	6231.8	2.12	25.4	-203.0	-4.4	Brown, Medium Turbidity, Slight Organic Odour
MW2162	12/08/2021	Q2	21.00	7.589	12.132	Good condition	7.16	11140.6	7241.4	3.15	18.9	-226.9	-21.8	Clear, Low Turbidity, Organic Odour
MW2162	01/02/2022	Q2	20.98	7.357	12.364	Good condition	7.05	11352.7	7379.3	3.79	21.9	-171.4	30.8	Light Grey, Low Turbidity, Slight Organic Odour
MW2162	25/07/2022	Q2	20.98	7.199	12.522	Good condition	7.17	8805.0	5723.0	1.83	18.3	-238.4	-32.7	Clear, Organic Odour, Low Turbidity
MW2163	17/03/2020	Q1	9.40	6.685	11.476	Good condition							Gauged only	
MW2163	20/07/2020	Q1	9.40	6.435	11.726	Good condition							Gauged only	
MW2163	13/01/2021	Q1	8.50	6.330	11.831	Good condition							Gauged only	
MW2163	12/08/2021	Q1	8.50	6.360	11.801	Good condition							Gauged only	
MW2163	01/02/2022	Q1	9.31	6.204	11.957	Good condition							Gauged only	
MW2163	25/07/2022	Q1	9.31	6.017	12.144	Good condition							Gauged only	
MW2164	17/03/2020	Q2	27.31	6.715	11.457	Good condition							Gauged only	
MW2164	20/07/2020	Q2	27.31	6.427	11.745	Good condition							Gauged only	
MW2164	11/01/2021	Q2	25.50	6.335	11.837	Good condition							Gauged only	
MW2164	12/08/2021	Q2	25.50	6.310	11.862	Good condition							Gauged only	
MW2164	01/02/2022	Q2	25.91	6.175	11.997	Good condition							Gauged only	
MW2164	25/07/2022	Q2	25.91	5.978	12.194	Good condition							Gauged only	
MW2166	23/03/2020	Q1	8.10	7.481	11.582	Good condition	6.80	12342.0	7405.2	2.95	19.2	173.4	378.2	Brown Medium turbidity No odour
MW2166	20/07/2020	Q1	8.10	7.085	11.978	Good condition	7.35	13581.3	8148.8	4.80	19.0	-47.7	157.3	Brown, high turbidity, no odour
MW2166	11/01/2021	Q1	8.00	7.122	11.941	Good condition	6.93	5879.8	3527.9	1.61	26.2	-124.9	72.9	Black, Medium Turbidity, Slight Organic Odour
MW2166	12/08/2021	Q1	8.00	7.120	11.943	Good condition	6.84	11679.6	7591.7	2.07	19.3	-117.0	87.7	Black, Medium Turbidity, No odour
MW2166	31/01/2022	Q1	8.75	6.981	12.082	Good condition	7.04	12390.3	8053.7	1.76	26.0	-99.4	98.6	Black / Grey, Organic Odour
MW2166	25/07/2022	Q1	8.75	6.786	12.277	Good condition	6.96	10399.0	6759.0	0.75	19.4	-115.5	89.1	Black / Grey, No odour, Medium Turbidity
MW2169	23/03/2020	Q1	8.25	5.785	10.823	Good condition	6.75	10518.0	6310.8	3.19	19.6	168.0	372.4	Brown Medium turbidity Slight Organic Odour
MW2169	20/07/2020	Q1	8.25	5.420	11.188	Good condition	7.50	1554.7	932.8	4.17	19.6	-66.2	138.2	Light brown, high turbidity, no odour
MW2169	11/01/2021	Q1	7.50	5.395	11.213	Good condition	7.38	11233.7	6740.2	3.54	24.4	-8.6	191.0	Light Brown, Low Turbidity, No odour
MW2169	12/08/2021	Q1	7.50	5.308	11.300	Good condition	7.33	11330.7	7365.0	4.05	20.0	-37.9	166.1	Light Brown, Low Turbidity, No odour
MW2169	31/01/2022	Q1	8.00	5.227	11.381	Good condition	7.35	11001.9	7151.2	2.79	26.8	-52.3	144.9	Brown, Turbid, No odour
MW2169	25/07/2022	Q1	8.00	4.965	11.643	Good condition	7.21	8750.0	5687.0	2.07	19.5	-22.1	182.4	Orange / Brown, Slight Organic Odour, Medium Turbidity
MW2171	17/03/2020	Q1	10.15	6.150	10.321	Good condition							Gauged only	
MW2171	20/07/2020	Q1	10.15	6.102	10.369	Good condition							Gauged only	
MW2171	11/01/2021	Q1	9.50	5.875	10.596	Good condition							Gauged only	
MW2171	12/08/2021	Q1	9.50	6.064	10.407	Good condition							Gauged only	
MW2171	31/01/2022	Q1	10.05	5.741	10.730	Good condition							Gauged only	
MW2171	25/07/2022	Q1	10.05	5.736	10.735	Good condition							Gauged only	
MW2172	23/03/2020	Q1	10.20	5.890	9.938	Sediment on IP	6.77	23436.0	14061.6	2.60	22.5	174.4	375.9	Clear Low turbidity Organic Odour
MW2172	20/07/2020	Q1	10.20	5.525	10.303	Sediment on IP	7.52	23432.6	14059.6	4.76	19.4	-87.3	117.3	Clear, low turbidity, no odour
MW2172	11/01/2021	Q1	9.50	5.480	10.348	Good condition	7.31	21366.6	12820.0	3.40	26.6	-22.7	174.7	Clear, Low Turbidity, No odour
MW2172	12/08/2021	Q1	9.50	5.223	10.605	Good condition	7.36	19700.1	12805.1	3.03	20.8	-42.0	161.2	Clear, Low Turbidity, No odour
MW2172	31/01/2022	Q1	10.27	5.270	10.558	Good condition	7.49	18313.6	11903.8	3.18	25.7	2.5	200.8	Clear, Low Turbidity, No odour
MW2172	25/07/2022	Q1	10.27	5.113	10.715	Good condition	7.51	13781.0	8957.0	2.69	19.8	-93.4	110.8	Light Brown, No odour, Low Turbidity
MW2173	23/03/2020	Q2	20.63	6.063	9.819	Good condition	6.95	25640.0	15384.0	1.26	22.4	66.7	268.3	Light Grey Low turbidity Organic Odour
MW2173	20/07/2020	Q2	20.63	5.550	10.332	Good condition	8.60	23343.1	14005.9	3.40	20.1	-336.1	-132.2	Clear, low turbidity, organic odour
MW2173	11/01/2021	Q2	21.00	5.542	10.340	Good condition	7.01	31996.1	19197.7	1.10	26.3	-214.8	-17.1	Black / Grey, Medium Turbidity, Organic Odour
MW2173	12/08/2021	Q2	21.00	5.334	10.548	Good condition	7.14	30205.8	19633.8	1.91	20.1	-167.9	36.0	Black, Turbid, Organic Odour
MW2173	31/01/2022	Q2	20.35	5.322	10.560	Good condition	7.06	29493.9	19171.0	2.19	25.4	-134.6	64.0	Black / Grey, Turbid, Organic Odour
MW2173	25/07/2022	Q2	20.35	5.175	10.707	Good condition	7.12	23296.0	15142.0	1.44	19.9	-192.2	11.9	Black / Grey, Organic Odour, Medium Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2175	23/03/2020	Q1	9.19	4.917	9.521	Good condition	6.79	21403.0	12841.8	3.21	22.1	184.2	386.1	Light Grey Low turbidity Organic Odour
MW2175	20/07/2020	Q1	9.19	4.710	9.728	Good condition	7.29	23264.0	13958.4	4.19	19.9	-234.2	-30.1	Black grey, low turbidity, organic odour
MW2175	11/01/2021	Q1	8.30	4.545	9.893	Good condition	7.23	24589.6	14753.8	1.63	24.3	6.0	205.7	Orange, Medium Turbidity, No odour
MW2175	12/08/2021	Q1	8.30	4.625	9.813	Good condition	7.59	25256.7	16416.9	5.45	18.8	55.5	260.7	Light Brown, Medium Turbidity, No odour
MW2175	31/01/2022	Q1	9.15	4.402	10.036	Good condition	7.28	24814.8	16129.6	2.75	26.2	-43.2	154.6	Brown, Medium Turbidity, No odour
MW2175	25/07/2022	Q1	9.15	4.243	10.195	Good condition	7.34	19554.0	12710.0	2.60	19.0	29.9	234.9	Clear, No odour, Low Turbidity
MW2176	23/03/2020	Q2	23.42	5.403	8.879	Good condition	6.75	33514.0	20108.4	2.81	23.0	51.3	252.3	Light Grey Low turbidity Slight Organic Odour
MW2176	20/07/2020	Q2	23.42	4.545	9.737	Good condition	7.07	28241.9	16945.1	1.64	20.4	-208.8	-5.2	Clear, low turbidity, no odour
MW2176	11/01/2021	Q2	22.20	4.410	9.872	Good condition	7.04	28672.5	17203.5	2.25	25.3	-131.3	67.4	Clear, Low Turbidity, Organic Odour
MW2176	12/08/2021	Q2	22.20	4.489	9.793	Good condition	7.19	26355.9	17131.3	2.98	19.0	-154.6	50.4	Light Brown, Low Turbidity, No odour
MW2176	31/01/2022	Q2	23.10	4.278	10.004	Good condition	6.98	28061.2	18239.8	2.54	26.4	-134.7	62.9	Clear, No odour
MW2176	25/07/2022	Q2	23.10	4.131	10.151	Good condition	6.98	22466.0	14602.0	1.65	19.5	73.1	277.6	Light Brown, No odour, Low Turbidity
MW2177	23/03/2020	Q1	7.87	4.543	9.359	Sediment on IP	6.88	13279.0	7967.4	2.43	23.2	182.7	383.5	Light Grey Low turbidity Slight Organic Odour
MW2177	20/07/2020	Q1	7.87	4.315	9.587	Sediment on IP	7.78	13810.7	8286.4	5.26	20.1	-20.2	183.7	Black, medium turbidity, no odour
MW2177	11/01/2021	Q1	7.20	4.145	9.757	Good condition	7.64	14118.5	8471.1	2.33	24.0	8.5	208.5	Light Brown, Medium Turbidity, No odour
MW2177	12/08/2021	Q1	7.20	4.213	9.689	Good condition	7.77	13200.8	8580.5	5.42	20.7	50.2	253.5	Light Brown, Medium Turbidity, No odour
MW2177	31/01/2022	Q1	7.82	4.016	9.886	Good condition	7.76	13025.1	8466.3	2.97	25.8	36.8	235.0	Light Brown, Low Turbidity, No odour
MW2177	25/07/2022	Q1	7.82	3.764	10.138	Good condition	7.76	9760.0	6344.0	4.48	19.3	-12.0	192.7	Light Brown, No odour, Low Turbidity
MW2180	23/03/2020	Q1	7.91	4.951	9.244	Sediment on IP	7.24	3258.0	1954.8	1.69	23.3	136.5	337.2	Clear Low turbidity No odour
MW2180	20/07/2020	Q1	7.91	4.587	9.608	Sediment on IP	8.36	3429.1	2057.5	4.74	19.1	-9.0	195.9	Clear, low turbidity, no odour
MW2180	11/01/2021	Q1	10.00	4.440	9.755	Good condition	-	-	-	-	-	-	-	Field transcription error
MW2180	12/08/2021	Q1	10.00	4.420	9.775	Good condition	8.09	3411.4	2217.4	3.66	20.6	-38.5	164.9	Light Brown, Low Turbidity, No odour
MW2180	31/01/2022	Q1	10.00	4.275	9.920	Good condition	8.06	3240.9	2106.6	1.88	26.1	-43.6	154.4	Light Brown, Low Turbidity, No odour
MW2180	25/07/2022	Q1	10.00	4.160	10.035	Good condition	8.09	2654.0	1725.0	2.30	19.5	-92.2	112.3	Light Brown, No odour, Low Turbidity
MW2182	23/03/2020	Q1	7.02	4.478	9.343	Sediment on IP	6.70	18370.0	11022.0	2.83	22.3	152.8	354.5	Clear Low turbidity No odour
MW2182	20/07/2020	Q1	7.02	3.825	9.996	Sediment on IP	8.22	14194.9	8516.9	5.20	20.0	-60.9	143.1	Light brown, medium turbidity, no odour
MW2182	11/01/2021	Q1	10.00	3.805	10.016	Good condition	8.30	17698.5	10619.1	1.83	24.7	137.6	336.9	Light Brown, Medium Turbidity, No odour
MW2182	12/08/2021	Q1	10.00	3.366	10.455	Good condition	7.58	10231.6	6650.5	0.91	20.7	76.4	279.7	Light Brown, Low Turbidity, No odour
MW2182	31/01/2022	Q1	6.98	3.325	10.496	Good condition	8.36	5900.0	3835.0	1.89	27.6	37.3	233.7	Brown, Turbid, No odour
MW2182	25/07/2022	Q1	6.98	3.385	10.436	Good condition	7.78	6490.0	4218.0	1.41	20.8	-9.9	193.3	Clear, No odour, Low Turbidity
MW2183	23/03/2020	Q2	19.92	5.522	9.309	Good condition	6.78	14813.0	8887.8	1.27	21.6	155.3	357.7	Light Brown Low turbidity No odour
MW2183	20/07/2020	Q2	19.92	4.828	10.003	Good condition	8.71	16452.4	9871.4	2.42	18.6	-178.0	27.4	Black grey, medium turbidity, organic odour
MW2183	11/01/2021	Q2	20.00	4.882	9.949	Good condition	8.47	16617.0	9970.2	2.26	25.2	142.4	341.2	Light Brown, Medium Turbidity, No odour
MW2183	12/08/2021	Q2	20.00	4.545	10.286	Good condition	7.18	15460.8	10049.5	2.15	20.4	118.1	321.7	Clear, Low Turbidity, No odour
MW2183	31/01/2022	Q2	19.70	4.581	10.250	Good condition	8.42	15477.0	10060.1	1.40	25.7	9.3	207.6	Brown, No odour
MW2183	25/07/2022	Q2	19.70	4.364	10.467	Good condition	8.03	11990.0	7793.0	1.15	19.3	-99.9	104.8	Light Brown, No odour, Low Turbidity
MW2184	23/03/2020	Q1	6.14	4.849	10.437	Good condition	7.72	7856.0	4713.6	6.54	24.4	136.1	335.7	Brown Medium turbidity No odour
MW2184	20/07/2020	Q1	6.14	4.050	10.388	Good condition	7.90	4647.9	2788.7	4.15	16.6	-172.3	35.1	Black / Grey, medium turbidity, no odour
MW2184	11/01/2021	Q1	8.30	4.200	10.238	Good condition	7.54	4322.4	2593.4	2.91	27.1	184.8	381.7	Yellow, Medium Turbidity, No odour
MW2184	12/08/2021	Q1	8.30	3.737	10.701	Good condition	8.24	1527.2	992.7	2.77	21.5	13.9	216.5	Clear, Low Turbidity, No odour
MW2184	31/01/2022	Q1	6.10	3.859	10.579	Good condition	7.69	1228.0	798.2	2.36	24.8	109.2	308.4	Brown, Turbid, No odour
MW2184	25/07/2022	Q1	6.10	3.596	10.842	Good condition	8.31	1414.0	919.0	1.76	19.3	102.0	306.7	Light Brown, No odour, Low Turbidity
MW2185	23/03/2020	Q2	18.96	6.010	8.428	Good condition	7.41	8282.0	4969.2	1.41	21.8	124.8	327.0	Clear Low turbidity No odour
MW2185	20/07/2020	Q2	18.96	4.890	10.396	Good condition	7.31	9543.1	5725.9	2.82	16.3	-222.6	-14.9	Clear, low turbidity, organic odour
MW2185	11/01/2021	Q2	18.00	5.045	10.241	Good condition	6.83	8923.4	5354.0	3.12	25.1	204.8	403.7	Clear, Low Turbidity, No odour
MW2185	12/08/2021	Q2	18.00	4.590	10.696	Good condition	7.67	8383.9	5449.5	3.56	20.1	109.9	313.8	Clear, Low Turbidity, No odour
MW2185	31/01/2022	Q2	18.74	4.700	10.586	Good condition	6.75	8093.0	5260.5	4.64	24.2	181.3	381.2	Yellow / Brown, Low Turbidity, No odour
MW2185	25/07/2022	Q2	18.74	4.429	10.857	Good condition	7.54	6315.0	4104.0	2.10	19.7	101.9	306.2	Light Brown, No odour, Low Turbidity
MW2188	23/03/2020	Q1	5.58	5.281	10.179	Sediment on IP, blocked at 5.58m btoc	Insufficient water for sample							
MW2188	21/07/2020	Q1	5.58	4.460	11.000	Good condition	Insufficient water for parameters. Sampled only.							
MW2188	14/01/2021	Q1	5.50	-	-	SWL below hydrasleeve	Insufficient water for parameters							
MW2188	13/08/2021	Q1	5.50	4.167	11.293	Good condition	7.74	10702.9	6956.9	7.50	17.8	-75.6	130.6	Clear, Low Turbidity, No odour
MW2188	01/02/2022	Q1	5.51	4.330	11.130	Good condition	7.67	4601.2	2990.8	4.19	23.1	-12.9	188.0	Light Brown, Medium Turbidity, No odour
MW2188	25/07/2022	Q1	5.51	4.008	11.452	Good condition	7.67	7671.0	4986.0	1.93	17.8	-82.9	123.3	Light Brown, No odour, Low Turbidity
MW2189	23/03/2020	Q2	20.52	5.607	9.594	Good condition	6.87	1808.0	1084.8	1.89	22.0	34.5	236.5	Light Brown Low turbidity No odour
MW2189	21/07/2020	Q2	20.52	4.175	11.026	Good condition	7.83	1194.1	716.5	2.50	20.1	-219.0	-15.1	Light brown, low turbidity, organic odour
MW2189	14/01/2021	Q2	21.00	4.345	10.856	Good condition	8.20	1728.2	1036.9	2.47	25.2	-191.2	7.6	Black / Grey, Low to Medium Turbdity, Organic Odour
MW2189	13/08/2021	Q2	21.00	3.846	11.355	Good condition	7.73	3443.4	2238.2	1.74	17.4	-200.3	6.3	Clear, Low Turbidity, Organic Odour
MW2189	01/02/2022	Q2	20.69	4.028	11.173	Good condition	7.73	2903.2	1887.1	1.48	24.8	-184.8	14.4	Black / Grey, Low Turbidity, Slight Organic Odour
MW2189	25/07/2022	Q2	20.69	3.708	11.493	Good condition	7.72	2620.0	1703.0	1.65	19.5	-223.7	-19.2	Light Brown, No odour, Low Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2193	23/03/2020	Q1	6.42	4.823	11.095	Good condition	7.23	4047.0	2428.2	2.28	19.9	148.6	352.7	Clear Low turbidity No odour
MW2193	21/07/2020	Q1	6.42	4.105	11.813	Good condition	7.83	8486.9	5092.1	5.83	18.1	97.2	303.2	Light yellow, low turbidity, no odour
MW2193	14/01/2021	Q1	6.50	4.080	11.838	Good condition	7.75	5922.5	3553.5	2.56	22.7	82.4	283.7	Light Brown, Low to Medium Turbidity, No odour
MW2193	12/08/2021	Q1	6.50	3.778	12.140	Good condition	7.73	5585.9	3630.8	3.56	19.1	25.6	230.5	Light Brown, Low Turbidity, No odour
MW2193	31/01/2022	Q1	6.42	3.750	12.168	Good condition	7.85	5548.0	3606.2	2.53	26.2	-136.1	61.8	Brown, Medium Turbidity, No odour
MW2193	25/07/2022	Q1	6.42	3.541	12.377	Good condition	7.79	4163.0	2705.0	1.94	19.4	-130.9	73.7	Light Brown, No odour, Low Turbidity
MW2194	23/03/2020	Q1	9.40	4.485	10.825	Sediment on IP	6.81	24551.0	14730.6	2.78	19.1	193.2	398.1	Clear turbidity Slight Organic Odour
MW2194	21/07/2020	Q1	9.40	4.170	11.140	Sediment on IP	7.12	25038.8	15023.3	1.77	18.8	-188.5	16.7	Black, low turbidity, organic odour
MW2194	14/01/2021	Q1	10.00	4.185	11.125	Good condition	7.35	25280.2	15168.1	3.34	22.8	105.8	307.0	Light Brown, Low to Medium Turbidity, No odour
MW2194	12/08/2021	Q1	10.00	3.857	11.453	Good condition	7.22	24421.1	15873.7	2.97	20.4	-16.3	187.3	Black / Grey, Low Turbidity, No odour
MW2194	01/02/2022	Q1	9.34	3.890	11.420	Good condition	7.36	24421.0	15873.7	4.34	21.6	-45.5	156.9	Light Brown, Low Turbidity, No odour
MW2194	25/07/2022	Q1	9.34	3.661	11.649	Good condition	7.11	18945.0	12314.0	1.39	19.5	-160.3	44.2	Clear, No odour, Low Turbidity
MW2195	18/03/2020	Q2	23.08	5.504	10.546	Good condition							Gauged only	
MW2195	20/07/2020	Q2	23.08	4.795	11.255	Good condition							Gauged only	
MW2195	14/01/2021	Q2	24.00	4.875	11.175	Good condition							Gauged only	
MW2195	12/08/2021	Q2	24.00	4.465	11.585	Good condition							Gauged only	
MW2195	01/02/2022	Q2	23.21	4.563	11.487	Good condition							Gauged only	
MW2195	25/07/2022	Q2	23.21	4.270	11.780	Good condition							Gauged only	
MW2197	23/03/2020	Q1	8.09	6.285	11.357	Good condition	6.96	7474.0	4484.4	2.59	18.4	154.6	360.2	Brown Medium turbidity Organic Odour
MW2197	21/07/2020	Q1	8.09	5.700	11.942	Good condition	7.29	8959.5	5375.7	5.23	17.8	104.3	310.5	Light yellow, low turbidity, no odour
MW2197	14/01/2021	Q1	7.50	5.635	12.007	Good condition	7.65	9690.4	5814.2	2.47	22.0	81.9	283.9	Light Brown, Low to Medium Turbidity, No odour
MW2197	12/08/2021	Q1	7.50	5.387	12.255	Good condition	7.36	8469.0	5504.9	3.33	17.4	51.3	257.9	Brown, Turbid, No odour
MW2197	01/02/2022	Q1	8.06	5.281	12.361	Good condition	7.66	8862.8	5760.8	1.69	21.3	-106.5	96.3	Light Brown, Medium Turbidity, No odour
MW2197	25/07/2022	Q1	8.06	5.052	12.590	Good condition	7.86	6185.0	4020.0	1.08	19.4	-158.1	46.5	Clear, No odour, Low Turbidity
MW2199	17/03/2020	Q2	24.23	6.020	11.157	Good condition							Gauged only	
MW2199	20/07/2020	Q2	24.23	5.645	11.532	Good condition							Gauged only	
MW2199	14/01/2021	Q2	24.00	5.595	11.582	Good condition							Gauged only	
MW2199	13/08/2021	Q2	24.00	5.386	11.791	Good condition							Gauged only	
MW2199	01/02/2022	Q2	23.95	5.345	11.832	Good condition							Gauged only	
MW2199	25/07/2022	Q2	23.95	5.146	12.031	Good condition							Gauged only	
MW2200	22/03/2020	Q2	19.64	6.228	11.675	Good condition	10.39	12816.0	7689.6	2.24	19.7	94.7	299.0	Clear Low turbidity No odour
MW2200	20/07/2020	Q2	19.64	5.753	12.150	Good condition	12.37	13885.0	8331.0	7.85	18.6	-203.9	1.5	Clear, low turbidity, no odour
MW2200	11/01/2021	Q2	19.50	5.692	12.211	Good condition	11.57	12096.4	7257.8	1.40	25.5	-230.8	-32.3	Light Yellow, Low Turbidity, No odour
MW2200	13/08/2021	Q2	19.50	5.456	12.447	Good condition	10.02	12696.7	8252.9	2.16	19.1	-210.6	-5.7	Other, Medium Turbidity, No odour
MW2200	31/01/2022	Q2	19.65	5.429	12.474	Good condition	10.08	10945.3	7114.4	3.55	28.0	-184.2	11.8	Light Brown, Medium Turbidity, No odour
MW2200	26/07/2022	Q2	19.65	5.214	12.689	Good condition	9.12	11852.0	7703.0	2.14	18.7	-263.1	-57.8	Black / Grey, Slight Organic Odour, Medium Turbidity
MW2201	22/03/2020	Q1	9.85	4.744	11.651	Good condition	6.82	4029.0	2417.4	2.48	20.9	65.8	268.9	Brown Medium turbidity Organic Odour
MW2201	21/07/2020	Q1	9.85	4.460	11.935	Good condition	7.67	2277.9	1366.7	3.07	19.9	-116.9	87.2	Brown, medium turbidity, no odour
MW2201	11/01/2021	Q1	10.00	4.270	12.125	Good condition	7.62	4097.2	2458.3	4.31	24.3	-90.9	108.8	Brown, Medium Turbidity, Slight Organic Odour
MW2201	13/08/2021	Q1	10.00	4.046	12.349	Good condition	7.37	8590.1	5583.6	2.36	19.0	-136.0	69.0	Black / Grey, Turbid, Slight Organic Odour
MW2201	01/02/2022	Q1	9.82	4.011	12.384	Good condition	7.87	5044.5	3278.9	3.38	20.9	-148.2	54.9	Light Grey, Medium Turbidity, No odour
MW2201	25/07/2022	Q1	9.82	3.956	12.439	Good condition	7.42	8600.0	5590.0	1.57	19.2	-191.0	13.8	Light Brown, No odour, Low Turbidity
MW2202	22/03/2020	Q2	24.28	5.221	11.252	Good condition	6.63	11397.0	6838.2	1.65	19.9	35.0	239.1	Light Grey Low turbidity Organic Odour
MW2202	20/07/2020	Q2	24.28	4.375	12.098	Good condition	7.11	12792.0	7675.2	3.12	19.5	-180.3	24.2	Black, low turbidity, organic odour
MW2202	11/01/2021	Q2	24.00	4.312	12.161	Good condition	7.14	12686.6	7612.0	2.43	25.0	-117.5	81.5	Black / Grey, Medium Turbidity, Organic Odour
MW2202	13/08/2021	Q2	24.00	4.097	12.376	Good condition	7.16	12628.7	8208.7	2.90	18.4	-151.9	53.7	Black / Grey, Medium Turbidity, Organic Odour
MW2202	01/02/2022	Q2	23.86	4.053	12.420	Good condition	7.25	12545.0	8154.3	0.37	21.8	-172.7	29.5	Black / Grey, Turbid, Organic Odour
MW2202	25/07/2022	Q2	23.86	3.788	12.685	Good condition	7.12	7846.0	5099.0	0.99	19.4	-190.1	14.5	Black / Grey, Slight Organic Odour, Medium Turbidity
MW2203	23/03/2020	Q1	7.90	4.830	11.942	gatic becoming covered with grass, stiff well cap	7.30	5415.0	3249.0	2.28	19.5	124.3	328.8	Brown Medium turbidity Slight Organic Odour
MW2203	21/07/2020	Q1	7.90	4.120	12.652	Good condition	7.78	5469.1	3281.5	5.16	18.9	69.2	274.3	Light yellow, medium turbidity, no odour
MW2203	14/01/2021	Q1	8.00	4.115	12.657	Good condition	7.66	5394.3	3236.6	2.07	22.5	70.8	272.3	Light Brown, Medium Turbidity, No odour
MW2203	13/08/2021	Q1	8.00	3.678	13.094	Good condition	7.78	3584.2	2329.7	3.70	18.9	-152.0	53.1	Clear, Low Turbidity, No odour
MW2203	31/01/2022	Q1	7.85	3.663	13.109	Good condition	8.60	5288.1	3437.3	2.78	26.1	-103.9	94.0	Light Brown, No odour
MW2203	25/07/2022	Q1	7.85	3.453	13.319	Good condition	7.54	4788.0	3112.0	0.97	19.2	-162.5	42.3	Light Brown, No odour, Low Turbidity
MW2209	25/03/2020	Q2	21.80	5.741	11.334	Good condition	7.19	6508.0	3904.8	2.36	21.3	124.4	327.1	Light Grey Low turbidity Organic Odour
MW2209	21/07/2020	Q2	21.80	5.742	11.333	Good condition	7.63	7818.3	4691.0	3.76	19.6	-206.4	-2.0	Clear, low turbidity, no odour
MW2209	12/01/2021	Q2	24.00	4.760	12.315	Good condition	7.49	7834.8	4700.9	2.48	22.8	-188.9	12.3	Clear, Low to Medium Turbidity, Organic Odour
MW2209	02/08/2021	Q2	24.00	5.188	11.887	Good condition	7.54	9601.9	6241.2	3.02	17.4	-226.3	-19.7	Light Grey, Low Turbidity, Organic Odour
MW2209	01/02/2022	Q2	21.98	4.426	12.649	Good condition	7.35	8547.5	5555.9	2.83	21.4	-182.1	20.5	Light Brown, Low Turbidity, No odour
MW2209	26/07/2022	Q2	21.98	4.183	12.892	Good condition	7.26	6763.0	4395.0	0.61	18.5	-286.3	-80.8	Light Brown, Organic Odour, Low Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2210	25/03/2020	Q2	21.46	6.539	11.548	Good condition	10.28	6752.0	4051.2	3.28	20.7	131.4	334.7	Light Grey Low turbidity Slight Organic Odour
MW2210	21/07/2020	Q2	21.46	5.795	12.292	Good condition	11.74	6745.5	4047.3	5.61	19.8	-63.0	141.2	Clear, low turbidity, organic odour
MW2210	12/01/2021	Q2	20.40	5.875	12.212	Good condition	7.72	8844.0	5306.4	2.02	20.4	-151.3	52.3	Light Yellow, Low Turbidity, Slight Organic Odour
MW2210	02/08/2021	Q2	20.40	5.576	12.511	Good condition	7.49	7636.0	4963.4	10.83	17.1	-147.1	59.8	Clear, Low Turbidity, Organic Odour
MW2210	01/02/2022	Q2	21.58	5.520	12.567	Good condition	7.47	7634.9	4962.7	1.44	22.5	-168.0	33.5	Light Brown, Low Turbidity, Slight Organic Odour
MW2210	26/07/2022	Q2	21.58	5.276	12.811	Good condition.	12.16	4917.0	3196.0	0.99	18.6	-126.2	79.2	Light Brown, No odour, Low Turbidity. pH confirmed, WQM bump tested.
MW2216	24/03/2020	Q2	22.22	8.320	12.148	Good condition	7.11	6241.0	3744.6	2.32	21.1	135.5	338.4	Clear Low turbidity No odour
MW2216	21/07/2020	Q2	22.22	7.380	13.088	Good condition	7.67	6828.9	4097.3	2.68	18.9	-62.0	143.1	Clear, low turbidity, no odour
MW2216	12/01/2021	Q2	21.00	7.465	13.003	Good condition	7.16	6688.4	4013.0	2.17	23.9	-54.1	146.1	Clear, Low Turbidity, No odour
MW2216	02/08/2021	Q2	21.00	7.270	13.198	Good condition	7.21	7258.0	4717.7	5.44	18.1	90.6	296.5	Clear, Low Turbidity, No odour
MW2216	02/02/2022	Q2	21.88	7.130	13.338	Good condition	7.25	6875.3	4468.9	2.97	19.9	-29.3	174.8	Clear, Low Turbidity, No odour
MW2216	26/07/2022	Q2	21.88	6.856	13.612	Good condition	7.01	5060.0	3289.0	1.44	19.7	19.4	223.7	Clear, No odour, Low Turbidity
MW2218	20/03/2020	Q2	21.20	8.589	11.185	Good condition	7.43	7113.0	4267.8	2.26	21.8	83.7	285.9	Light Brown Low turbidity No odour
MW2218	21/07/2020	Q2	21.20	7.585	12.189	Good condition	7.73	7609.3	4565.6	2.81	19.9	-142.1	62.0	Clear, low turbidity, no odour
MW2218	12/01/2021	Q2	20.50	7.990	11.784	Good condition	7.67	7909.9	4745.9	2.66	22.9	-137.7	63.4	Clear, Low Turbidity, Slight Organic Odour
MW2218	02/08/2021	Q2	20.50	7.350	12.424	Good condition	7.47	7921.0	5148.7	2.42	18.7	-198.2	7.1	Clear, Low Turbidity, Organic Odour
MW2218	02/02/2022	Q2	21.26	7.539	12.235	Good condition	7.49	7631.7	4960.6	4.56	19.9	-144.7	59.4	Clear, Low Turbidity, Slight Organic Odour
MW2218	26/07/2022	Q2	21.26	6.979	12.795	Good condition	7.54	6002.0	3901.0	1.06	20.8	-211.5	-8.3	Light Brown, Organic Odour, Turbidity
MW2270	22/03/2020	Q3	39.46	7.084	11.016	tubes stuck	6.64	9666.0	5799.6	2.21	20.4	121.8	325.5	Light Grey Low turbidity No odour
MW2270	20/07/2020	Q3	39.46	6.200	11.900	Good condition	8.35	10775.3	6465.2	1.89	18.9	-128.5	76.7	Black, medium turbidity, organic odour
MW2270	11/01/2021	Q3	42.00	6.525	11.575	Good condition	7.17	10771.4	6462.8	2.12	28.5	-45.6	150.0	Brown, Medium Turbidity, Organic Odour
MW2270	02/08/2021	Q3	42.00	5.980	12.120	Good condition	6.96	10882.2	7073.4	2.45	19.0	-82.9	122.1	Light Brown, Low Turbidity, No odour
MW2270	31/01/2022	Q3	39.97	6.213	11.887	Good condition	6.92	10719.4	6967.6	0.10	27.9	-90.6	105.5	Light Brown, Medium Turbidity, Organic Odour
MW2270	26/07/2022	Q3	39.97	5.849	12.251	Good condition	7.38	8686.0	5645.0	2.20	19.5	-180.3	24.2	Black/ Grey, No odour, Low Turbidity
MW2272	25/03/2020	Q3	42.90	10.040	6.459	Sediment on IP	10.46	8899.0	5339.4	1.99	21.6	109.7	312.1	Clear turbidity No odour
MW2272	21/07/2020	Q3	42.90	6.965	9.534	Sediment on IP	11.26	8498.0	5098.8	3.59	19.4	-212.3	-7.7	Clear, low turbidity, no odour
MW2272	12/01/2021	Q3	42.00	9.255	7.244	Good condition	12.15	9085.4	5451.2	1.86	23.7	-108.7	91.6	Clear, Low Turbidity, No odour
MW2272	02/08/2021	Q3	42.00	6.621	9.878	Good condition	12.50	9138.0	5939.7	3.09	17.9	-7.9	198.2	Clear, Low Turbidity, No odour
MW2272	31/01/2022	Q3	42.10	8.139	8.360	Good condition	11.91	5916.0	3845.4	2.39	27.2	-83.4	113.4	Light Grey, Medium Turbidity, No odour
MW2272	25/07/2022	Q3	42.10	6.152	10.347	Good condition	12.95	5693.0	3700.0	1.43	20.4	-144.9	58.7	Clear, No Turbidity, No Odour
MW2275	23/03/2020	Q3	48.12	7.835	6.286	Good condition	6.77	8398.0	5038.8	1.57	23.1	29.4	230.3	Light Brown Low turbidity Organic Odour
MW2275	20/07/2020	Q3	48.12	4.843	9.278	Good condition	7.53	9117.5	5470.5	2.62	19.9	165.3	369.4	Black, medium turbidity, organic odour
MW2275	11/01/2021	Q3	46.50	6.925	7.196	Good condition	7.69	6908.4	4145.0	3.13	23.9	-171.8	28.3	Light Brown, Medium Turbidity, No odour
MW2275	12/08/2021	Q3	46.50	4.502	9.619	Good condition	7.40	8253.0	5364.5	1.99	20.8	-142.3	60.9	Grey/ Brown, Medium Turbidity, No odour
MW2275	31/01/2022	Q3	47.80	6.224	7.897	Good condition	7.18	8451.6	5493.5	1.93	27.8	-74.3	121.9	Light Brown, Medium Turbidity, No odour
MW2275	25/07/2022	Q3	47.80	4.147	9.974	Good condition	7.13	6771.0	4401.0	1.32	19.6	-68.5	135.9	Light Brown, Slight Organic Odour, Low Turbidity
MW2281	23/03/2020	Q3	42.34	8.171	-	Good condition	9.90	5860.0	3516.0	1.78	23.2	133.4	334.2	Clear Low turbidity No odour
MW2281	20/07/2020	Q3	42.34	5.818	9.411	Good condition	8.25	10251.7	6151.0	3.29	18.4	-186.5	19.1	Clear, low turbidity, no odour
MW2281	11/01/2021	Q3	39.00	7.455	7.774	Good condition	6.97	11750.8	7050.5	3.67	25.1	219.8	418.7	Clear, Low Turbidity, No odour
MW2281	12/08/2021	Q3	39.00	5.532	9.697	Good condition	8.06	11269.0	7324.9	1.98	21.4	12.1	214.7	Clear, Low Turbidity, No odour
MW2281	31/01/2022	Q3	39.67	6.689	8.540	Good condition	6.72	11306.3	7349.1	2.27	25.7	171.8	370.1	Clear, Low Turbidity, No odour
MW2281	25/07/2022	Q3	39.67	5.243	9.986	Good condition	7.00	8631.0	5610.0	1.24	19.6	146.8	351.2	Light Brown, No odour, Low Turbidity
MW2284	25/03/2020	Q4	60.00	10.361	6.148	Good condition	10.08	6036.0	3621.6	1.73	22.4	98.3	299.9	Light Brown Low turbidity No odour
MW2284	21/07/2020	Q4	60.00	7.120	9.389	Good condition	11.14	5681.5	3408.9	3.68	19.5	-231.4	-26.9	Clear, low turbidity, no odour
MW2284	12/01/2021	Q4	61.00	9.555	6.954	Good condition	10.25	5629.3	3377.6	2.07	26.4	-215.1	-17.5	Milky Grey, Medium Turbidity, No odour
MW2284	02/08/2021	Q4	61.00	6.729	9.780	Good condition	9.50	5730.0	3724.5	2.63	18.4	-188.4	17.2	Clear, Low Turbidity, No odour
MW2284	31/01/2022	Q4	59.90	8.313	8.196	Good condition	10.73	4924.0	3200.6	2.22	27.7	-131.1	65.3	Clear, Low Turbidity, Slight Organic Odour
MW2284	25/07/2022	Q4	59.90	6.243	10.266	Good condition	10.05	4263.0	2770.0	0.94	20.0	-202.3	1.7	Cloudy White, Medium Turbidity, Bleach Odour. HydraSleeve coated in white sediment
MW2285	23/03/2020	Q4	58.00	8.244	6.043	Good condition	8.07	8325.0	4995.0	1.24	22.5	-43.8	157.7	Light Brown Low turbidity Organic Odour
MW2285	20/07/2020	Q4	58.00	5.155	9.132	Good condition	7.99	7511.1	4506.7	2.90	19.7	-269.8	-65.5	Black/ Grey, low turbidity, no odour
MW2285	11/01/2021	Q4	57.00	7.265	7.022	Good condition	7.78	7145.2	4287.1	2.23	24.7	-134.2	65.1	Black/ Grey, Turbid, Organic Odour
MW2285	12/08/2021	Q4	57.00	4.724	9.563	Good condition	7.45	6189.5	4023.2	2.46	20.2	-155.7	48.1	Black/ Grey, Medium Turbidity, Organic Odour
MW2285	31/01/2022	Q4	58.00	6.482	7.805	Good condition	7.48	6637.4	4314.3	1.26	30.6	-102.8	90.7	Black/ Grey, Medium Turbidity, Organic Odour
MW2285	25/07/2022	Q4	58.00	4.303	9.984	Good condition	7.31	5677.0	3690.0	0.87	18.7	-161.4	43.9	Light Brown, Slight Organic Odour, Low Turbidity
MW2286	23/03/2020	Q4	52.55	10.995	4.850	Sediment on IP	10.76	8506.0	5103.6	3.87	26.8	114.9	312.1	Light Brown Low turbidity No odour
MW2286	20/07/2020	Q4	52.55	6.860	8.463	Sediment on IP	12.33	8824.3	5294.6	4.51	18.7	-87.5	117.8	Clear, low turbidity, no odour
MW2286	11/01/2021	Q4	57.00	10.005	5.318	Good condition	11.70	5335.2	3201.1	2.65	25.2	-123.8	75.0	Clear, Low Turbidity, No odour
MW2286	12/08/2021	Q4	57.00	6.300	9.023	Good condition	11.18	2802.6	1821.7	3.07	19.9	-274.2	-70.1	Other, Turbid, No odour
MW2286	31/01/2022	Q4	52.34	8.539	6.784	Good condition	10.86	3089.2	2008.0	1.54	27.5	-230.8	-34.3	Clear, Low Turbidity, No odour
MW2286	25/07/2022	Q4	52.34	5.885	9.438	Good condition	11.41	2370.0	1540.0	2.13	19.4	-194.7	9.9	Other, No odour, Low Turbidity. White-cream sediment at bottom of sleeve

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW2325	20/03/2020	Q1	10.95	8.432	10.695	rusty standpipe, roots	6.67	8058.0	4834.8	2.09	20.9	89.3	292.4	Light Brown Low turbidity Organic Odour
MW2325	21/07/2020	Q1	10.95	7.295	11.832	Good condition	8.07	10501.7	6301.0	3.07	19.1	29.5	234.4	Clear, low turbidity, no odour
MW2325	12/01/2021	Q1	10.90	7.775	11.352	Good condition	8.79	8689.3	5213.6	2.37	24.2	-81.3	118.5	Light Brown, Medium Turbidity, Organic Odour
MW2325	02/08/2021	Q1	10.90	7.036	12.091	Good condition	7.25	10060.0	6539.0	2.84	17.3	135.7	342.4	Light Brown, Low Turbidity, No odour
MW2325	02/02/2022	Q1	10.90	7.346	11.781	Good condition	7.15	8673.2	5637.6	4.02	19.6	53.6	258.0	Light Brown, Low Turbidity, No odour
MW2325	26/07/2022	Q1	10.90	6.740	12.387	Good condition	6.89	7199.0	4679.0	2.50	18.7	-79.8	125.5	Light Brown, No odour, Low Turbidity
MW2358	22/03/2020	Q1	-	8.035	12.027	rusty standpipe	6.72	10257.0	6154.2	3.17	19.4	143.4	348.0	Clear turbidity No odour
MW2358	20/07/2020	Q1	-	7.840	12.222	Good condition	7.01	11306.4	6783.8	3.96	18.8	-144.9	60.4	Clear, low turbidity, no odour
MW2358	11/01/2021	Q1	11.01	7.665	12.397	Good condition	6.93	11053.2	6631.9	3.28	25.4	-34.4	164.2	Brown, Medium Turbidity, No odour
MW2358	12/08/2021	Q1	11.01	7.796	12.266	Good condition	7.01	11066.1	7193.0	2.70	18.2	-111.4	94.4	Light Brown, Low Turbidity, No odour
MW2358	01/02/2022	Q1	11.03	7.535	12.527	Good condition	6.95	11156.9	7252.0	2.98	21.2	-43.3	159.6	Light Brown, Medium Turbidity, No odour
MW2358	25/07/2022	Q1	11.03	7.394	12.668	Good condition	7.06	8720.0	5668.0	2.48	19.4	-97.2	107.4	Black / Grey, No odour, Medium Turbidity
MW2394	22/03/2020	Q1	11.83	6.899	11.889	Sediment on IP, well completely covered in grass	6.81	12320.0	7392.0	2.73	20.9	152.3	355.4	Light Brown Low turbidity No odour
MW2394	20/07/2020	Q1	11.83	6.755	12.033	Good condition	7.20	13528.5	8117.1	3.06	19.5	-150.0	54.5	Black, medium turbidity, organic odour
MW2394	11/01/2021	Q1	11.74	6.555	12.233	Good condition	6.73	13634.9	8180.9	1.74	26.5	-99.6	97.9	Brown, Medium Turbidity, No odour
MW2394	12/08/2021	Q1	11.74	6.692	12.096	Good condition	7.34	13361.9	8685.2	1.91	19.1	-227.5	-22.6	Black, Turbid, Organic Odour
MW2394	01/02/2022	Q1	11.71	6.439	12.349	Good condition	7.34	13483.0	8764.0	1.58	21.5	-250.3	-47.8	Black, Turbid, Organic Odour
MW2394	25/07/2022	Q1	11.71	6.306	12.482	Good condition	7.21	10480.0	6812.0	0.63	18.9	-266.1	-61.0	Black, Slight Organic Odour, Turbid Turbidity
MW2411	22/03/2020	Q1	11.47	6.754	11.964	Good condition	6.85	7017.0	4210.2	1.75	20.6	137.0	340.4	Clear Low turbidity No odour
MW2411	20/07/2020	Q1	11.47	6.585	12.133	Good condition	7.26	9346.4	5607.8	3.59	19.0	-260.7	-55.7	Clear, low turbidity, organic odour
MW2411	11/01/2021	Q1	10.42	6.400	12.318	Good condition	7.02	12029.2	7217.5	2.05	25.1	-222.0	-23.1	Clear, Low to Medium Turbidity, Organic Odour
MW2411	12/08/2021	Q1	10.42	6.522	12.196	Good condition	7.30	11098.9	7214.3	3.26	18.3	-225.4	-19.7	Black / Grey, Medium Turbidity, Organic Odour
MW2411	01/02/2022	Q1	11.40	6.260	12.458	Good condition	7.20	11100.0	7215.0	1.22	20.7	-228.0	-24.7	Light Grey, Low Turbidity, Organic Odour
MW2411	25/07/2022	Q1	11.40	6.135	12.583	Good condition	7.07	9730.0	6324.0	0.75	19.7	-242.4	-38.1	Black / Grey, Organic Odour, Medium Turbidity
MW2490	24/03/2020	Q1	8.47	6.297	11.283	Good condition	7.34	6186.0	3711.6	2.74	20.3	163.1	366.8	Brown Medium turbidity No odour
MW2490	21/07/2020	Q1	8.47	5.380	12.200	Good condition	7.81	6992.1	4195.3	3.46	19.9	-8.7	195.4	Light yellow, medium turbidity, no odour
MW2490	12/01/2021	Q1	0.00	5.518	12.062	Good condition	7.62	7401.2	4440.7	3.66	22.2	-35.0	166.8	Light Brown, Low Turbidity, No odour
MW2490	02/08/2021	Q1	8.47	4.830	12.750	Good condition	7.49	6774.5	4403.4	4.39	16.2	76.9	284.7	Light Brown, Medium Turbidity, No odour
MW2490	01/02/2022	Q1	8.53	5.137	12.443	Good condition	7.69	6238.4	4055.0	3.22	22.6	1.8	203.2	Light Brown, Medium Turbidity, No odour
MW2490	26/07/2022	Q1	8.53	4.816	12.764	Good condition	7.55	4255.0	2765.0	1.82	19.2	9.1	213.9	Light Brown, No odour, Low Turbidity
MW2499	23/03/2020	Q1	9.06	5.227	10.542	Sediment on IP	7.08	1474.0	884.4	2.65	20.9	121.7	324.8	Light Brown Low turbidity No odour
MW2499	21/07/2020	Q1	9.06	4.202	11.567	Sediment on IP	8.47	1432.4	859.4	7.83	19.5	19.8	224.3	Light yellow, low turbidity, no odour
MW2499	14/01/2021	Q1	9.06	4.435	11.334	Good condition	8.43	-	-	6.00	22.5	69.8	271.3	Light Brown, Low to Medium Turbidity, No odour. EC field transcription error.
MW2499	12/08/2021	Q1	9.06	3.750	12.019	Good condition	8.11	1556.8	1011.9	7.57	17.9	8.7	214.8	Light Brown, Low Turbidity, No odour
MW2499	01/02/2022	Q1	7.92	4.046	11.723	Good condition	8.44	1446.7	940.4	7.06	21.2	-55.9	146.9	Light Brown, Medium Turbidity, No odour
MW2499	26/07/2022	Q1	7.92	3.815	11.954	Good condition	8.39	1478.0	960.0	5.30	18.5	-1.1	204.4	Clear, No odour, Low Turbidity
MW2501	20/03/2020	Q1	10.62	3.751	11.922	Sediment on IP	7.15	5982.0	3589.2	2.13	21.0	72.5	275.5	Light Brown turbidity No odour
MW2501	23/07/2020	Q1	10.62	3.240	12.433	Sediment on IP	8.62	5382.0	3229.2	4.32	19.5	-93.5	111.0	Light yellow, medium turbidity, no odour
MW2501	14/01/2021	Q1	10..61	3.940	11.733	Good condition	7.59	4736.7	2842.0	2.34	21.9	-9.8	192.3	Black / Grey, Medium Turbidity, Slight Organic Odour
MW2501	02/08/2021	Q1	10.61	2.970	12.703	Good condition	7.93	4338.1	2819.8	1.90	17.0	126.2	333.2	Light Brown, Low Turbidity, No odour
MW2501	02/02/2022	Q1	10.75	3.516	12.157	Good condition	7.67	4250.2	2762.6	2.38	18.9	31.0	236.1	Light Brown, Medium Turbidity, No odour
MW2501	26/07/2022	Q1	10.75	3.114	12.559	Good condition	7.79	3273.0	2127.0	1.45	19.5	-159.5	45.0	Light Brown, No odour, Low Turbidity
MW2528	25/03/2020	Q1	9.18	5.485	11.696	Gatic and bentonite need replacing	7.64	2429.0	1457.4	2.86	20.5	115.9	319.4	Clear Low turbidity Slight Organic Odour
MW2528	21/07/2020	Q1	9.18	5.775	11.406	Good condition	8.37	2665.2	1599.1	5.22	19.1	-76.8	128.1	Clear, low turbidity, no odour
MW2528	12/01/2021	Q1	9.06	4.798	12.383	Good condition	7.95	2764.7	1658.8	1.99	22.0	-21.3	180.7	Clear, Low Turbidity, No odour
MW2528	02/08/2021	Q1	9.06	4.540	12.641	Good condition	7.88	2976.0	1934.4	3.50	18.2	-86.9	118.9	Grey, Low Turbidity, Organic Odour
MW2528	01/02/2022	Q1	9.00	4.460	12.721	Good condition	7.86	2718.6	1767.1	3.62	19.8	-127.5	76.7	Clear, Low Turbidity, Slight Organic Odour
MW2528	26/07/2022	Q1	9.00	4.219	12.962	Good condition	7.81	2078.0	1350.0	1.63	18.6	-220.6	-15.2	Light Brown, Slight Organic Odour, Low Turbidity
MW4001	25/03/2020	Q1	9.67	5.267	7.642	Good condition	8.10	1514.0	908.4	1.45	22.8	67.1	268.3	Yellow / Brown Low turbidity Compost odour
MW4001	22/07/2020	Q1	9.67	3.210	9.699	Good condition	9.04	1701.3	1020.8	5.25	18.6	-119.7	85.7	Brown, medium turbidity, no odour
MW4001	13/01/2021	Q1	9.56	4.670	8.239	Good condition	8.29	1092.4	655.4	3.12	27.3	-46.1	150.6	Light Brown, Low to Medium Turbidity, No odour
MW4001	06/08/2021	Q1	9.56	2.835	10.074	Good condition	8.63	1682.0	1093.3	5.51	19.2	27.7	232.5	Light Brown, Medium Turbidity, No odour
MW4001	04/02/2022	Q1	9.55	3.395	9.514	Good condition	-	1532.6	996.2	3.36	19.1	-38.0	166.9	Clear, Low Turbidity, No odour. pH transcription error.
MW4001	25/07/2022	Q1	9.55	2.904	10.005	Good condition	8.45	1194.0	776.0	2.84	18.2	-104.8	101.0	Light Brown, Low Turbidity, Slight Organic Odour
MW4003	20/03/2020	Q1	7.82	2.857	10.603	Sediment on IP	7.03	7234.0	4340.4	2.31	22.8	47.8	249.0	Clear turbidity No odour
MW4003	23/07/2020	Q1	7.82	2.070	11.390	Sediment on IP	8.10	7858.9	4715.3	3.93	19.2	57.8	262.7	Clear, low turbidity, no odour
MW4003	13/01/2021	Q1	7.63	2.285	11.175	Good condition	7.82	7864.6	4718.8	2.20	22.9	-44.0	157.1	Clear, Low to Medium Turbidity, No odour
MW4003	05/08/2021	Q1	7.63	1.563	11.897	Good condition	8.55	7954.6	5170.5	5.86	18.6	17.1	222.5	Grey / Brown, Medium Turbidity, No odour
MW4003	03/02/2022	Q1	7.83	1.996	11.464	Good condition	7.80	7794.9	5066.7	2.51	21.6	-20.5	181.9	Light Brown, Low Turbidity, Slight Organic Odour
MW4003	28/07/2022	Q1	7.83	1.770	11.690	Good condition	7.66	5900.0	3835.0	1.96	18.8	-115.5	89.7	Light Brown, No odour, Low Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW4006	19/03/2020	Q1	7.26	3.225	-	Good condition							Gauged only	
MW4006	23/07/2020	Q1	7.26	2.545	10.738	Good condition							Gauged only	
MW4006	13/01/2021	Q1	7.25	2.715	10.568	Good condition							Gauged only	
MW4006	04/08/2021	Q1	7.25	2.032	11.251	Good condition							Gauged only	
MW4006	03/02/2022	Q1	7.25	2.387	10.896	Good condition							Gauged only	
MW4006	25/07/2022	Q1	7.25	2.118	11.165	Good condition							Gauged only	
MW4009	19/03/2020	Q1	8.81	4.377	9.993	Sediment on IP, gatic covered with grass.	6.81	7682.0	4609.2	1.73	21.0	33.2	236.2	Light Brown Low turbidity dirt/sediment odour
MW4009	22/07/2020	Q1	8.81	3.890	10.480	Good condition	7.26	8251.2	4950.7	5.19	18.5	-133.6	71.9	Black, low turbidity, organic odour
MW4009	12/01/2021	Q1	9.50	3.945	10.425	Good condition	7.21	8611.2	5166.7	3.03	23.7	1.9	202.2	Light Brown, Medium Turbidity, No odour
MW4009	02/08/2021	Q1	9.50	3.794	10.576	Good condition	7.51	9059.0	5888.4	7.57	16.0	5.5	213.5	Light Brown, Low Turbidity, No odour
MW4009	02/02/2022	Q1	21.80	3.760	10.610	Good condition	7.24	6647.8	4321.1	3.27	22.2	-50.0	151.8	Brown, Turbid, No odour
MW4009	27/07/2022	Q1	21.80	3.445	10.925	Good condition	7.21	6578.0	4275.0	2.76	19.8	-111.7	92.5	Light Brown, No odour, Low Turbidity
MW4011	20/03/2020	Q1	-	-	-	Lost/destroyed							Lost/destroyed	
MW4011	-	Q1	10.26	-	-	Lost/destroyed							Destroyed	
MW4013	25/03/2020	Q1	4.63	2.403	10.720	Good condition	7.25	1968.0	1180.8	4.74	24.2	49.9	249.7	Clear Low turbidity No odour
MW4013	23/07/2020	Q1	4.63	0.580	12.543	Good condition	8.41	2490.0	1494.0	6.80	17.2	-17.9	189.0	Clear, low turbidity, no odour
MW4013	13/01/2021	Q1	6.95	1.645	11.478	Good condition	8.53	2356.3	1413.8	2.61	24.4	-77.0	122.6	Light Brown, Low Turbidity, No odour
MW4013	06/08/2021	Q1	6.95	0.006	13.117	Good condition	8.12	2258.0	1467.7	5.48	14.6	117.0	326.4	Light Brown, Low Turbidity, No odour
MW4013	04/02/2022	Q1	5.00	0.750	12.373	Good condition	8.07	3028.9	1968.8	3.79	20.0	4.6	208.6	Clear, Low Turbidity, No odour
MW4013	27/07/2022	Q1	5.00	0.352	12.771	Good condition	7.89	1873.0	1217.0	4.60	14.9	56.8	265.9	Light Brown, No odour, Low Turbidity
MW4015	20/03/2020	Q1	6.90	3.035	10.592	traffic control required	6.35	3526.0	2115.6	3.30	19.6	80.2	284.6	Light Brown Low turbidity No odour
MW4015	23/07/2020	Q1	6.90	2.245	11.382	Good condition	8.42	3943.0	2365.8	4.59	18.9	-8.5	196.6	Brown, medium turbidity, no odour
MW4015	14/01/2021	Q1	6.96	2.395	11.232	Good condition	7.78	4124.0	2474.4	2.50	20.4	70.1	273.7	Brown, Medium Turbidity, No odour
MW4015	05/08/2021	Q1	6.96	1.534	12.093	Good condition	7.96	4306.1	2799.0	6.09	17.1	158.6	365.5	Light Brown, Medium Turbidity, No odour
MW4015	03/02/2022	Q1	7.00	2.125	11.502	Good condition	8.45	4065.0	2642.3	2.77	21.9	-84.9	117.3	Clear, Low Turbidity, No odour
MW4015	28/07/2022	Q1	7.00	4.954	8.673	Good condition	7.71	3298.0	2143.0	2.19	17.6	-43.6	162.8	Orange / Brown, No odour, Turbid Turbidity
MW4020	20/03/2020	Q1	8.35	4.095	9.875	Sediment on IP	6.84	5370.0	3222.0	4.69	20.6	33.0	236.4	Light Brown Low turbidity No odour
MW4020	22/07/2020	Q1	8.35	3.655	10.315	Sediment on IP	7.50	6386.0	3831.6	6.04	18.4	5.8	211.4	Clear, low turbidity, no odour
MW4020	12/01/2021	Q1	8.40	3.615	10.355	Good condition	7.18	6487.3	3892.4	5.28	23.0	8.0	209.0	Light Yellow, Low Turbidity, Slight Organic Odour
MW4020	03/08/2021	Q1	8.40	3.504	10.466	Good condition	6.98	6596.1	4287.5	7.81	16.7	152.6	359.9	Light Brown, , No odour
MW4020	02/02/2022	Q1	8.27	3.354	10.616	Good condition	7.25	6424.6	4176.0	5.82	21.9	38.7	240.8	Clear, Low Turbidity, No odour
MW4020	27/07/2022	Q1	8.27	3.013	10.957	Good condition	7.21	5042.0	3277.0	4.25	18.4	24.4	230.0	Light Brown, No odour, Low Turbidity
MW4021	19/03/2020	Q2	18.05	3.980	9.717	Sediment on IP, gatic covered in dirt	6.70	4852.0	2911.2	3.60	21.2	39.7	242.6	Light Brown Low turbidity No odour
MW4021	22/07/2020	Q2	18.05	3.505	10.192	Good condition	7.41	6476.6	3886.0	4.16	18.2	10.6	216.4	Clear, low turbidity, organic odour
MW4021	12/01/2021	Q2	18.00	3.460	10.237	Good condition	7.15	6433.8	3860.3	3.20	22.7	27.3	228.6	Clear, Low Turbidity, No odour
MW4021	03/08/2021	Q2	18.00	3.325	10.372	Good condition	6.32	6610.0	4296.5	2.96	16.6	159.9	367.3	Light Brown, Low Turbidity, No odour
MW4021	02/02/2022	Q2	17.85	3.188	10.509	Good condition	7.16	6258.9	4068.3	2.39	21.9	-23.4	178.7	Light Brown, Medium Turbidity, No odour
MW4021	27/07/2022	Q2	17.85	2.871	10.826	Good condition	7.17	4936.0	3208.0	2.45	18.7	-1.6	203.7	Light Brown, No odour, Low Turbidity
MW4022	20/03/2020	Q2	21.80	4.435	9.988	Sediment on IP	6.79	6079.0	3647.4	2.55	21.0	26.0	229.0	Light Brown Low turbidity dirt/sediment odour
MW4022	22/07/2020	Q2	21.80	3.955	10.468	Sediment on IP	7.88	5892.1	3535.3	3.11	19.4	-174.7	29.9	Black, medium turbidity, organic odour
MW4022	12/01/2021	Q2	22.50	3.980	10.443	Good condition	7.23	6815.4	4089.2	2.87	23.6	-83.4	117.0	Black, Medium Turbidity, Organic Odour
MW4022	02/08/2021	Q2	22.50	3.816	10.607	Good condition	7.46	6909.8	4491.4	3.09	16.1	-126.1	81.8	Black, Organic Odour
MW4022	02/02/2022	Q2	8.80	3.718	10.705	Good condition	7.29	8470.3	5505.7	4.14	22.4	10.8	212.4	Light Brown, Low Turbidity, No odour
MW4022	27/07/2022	Q2	8.80	3.409	11.014	Good condition	7.42	3709.0	2410.0	0.86	19.0	-221.9	-16.9	Black/ Grey, Slight Organic Odour, Medium Turbidity
MW4023	20/03/2020	Q1	7.90	3.345	8.510	Sediment on IP	6.69	25730.0	15438.0	2.07	21.3	20.7	223.4	Brown Low turbidity No odour
MW4023	22/07/2020	Q1	7.90	2.885	8.970	Sediment on IP	7.16	28706.0	17223.6	3.82	17.8	-128.1	78.1	Light brown, low turbidity, organic odour
MW4023	12/01/2021	Q1	8.00	2.850	9.005	Good condition	7.13	30855.3	18513.2	1.30	23.0	-53.2	147.8	Brown, Medium Turbidity, Slight Organic Odour
MW4023	03/08/2021	Q1	8.00	2.917	8.938	Good condition	7.46	31356.0	20381.4	4.39	15.7	-4.8	203.5	Brown, Medium Turbidity, No odour
MW4023	02/02/2022	Q1	8.00	2.819	9.036	Good condition	7.15	28683.2	18644.1	3.00	19.8	3.0	207.2	Light Brown, Medium Turbidity, No odour
MW4023	27/07/2022	Q1	8.00	2.264	9.591	Good condition	7.04	21877.0	14220.0	0.81	18.3	-114.1	91.6	Light Brown, No odour, Medium Turbidity
MW4024	26/03/2020	Q2	18.30	3.268	8.627	Sediment on IP	6.89	21806.0	13083.6	4.10	21.1	-21.8	181.1	Clear Low turbidity No odour
MW4024	22/07/2020	Q2	18.30	2.913	8.982	Sediment on IP	7.18	24653.3	14792.0	3.55	18.7	-55.2	150.1	Clear, low turbidity, no odour
MW4024	12/01/2021	Q2	21.00	2.905	8.990	Good condition	7.42	24183.1	14509.9	4.44	22.8	-79.2	122.0	Light Brown, Low to Medium Turbidity, No odour
MW4024	03/08/2021	Q2	21.00	3.034	8.861	Good condition	7.46	25287.0	16436.6	4.47	17.3	-147.4	59.3	Clear, No odour
MW4024	02/02/2022	Q2	15.78	2.851	9.044	Good condition	7.39	24353.2	15829.6	5.63	20.9	-65.8	137.3	Light Brown, Low Turbidity, No odour
MW4024	27/07/2022	Q2	15.78	2.292	9.603	Good condition	7.15	19934.0	12957.0	1.05	18.2	-189.7	16.1	Light Brown, No odour, Medium Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW4027	26/03/2020	Q1	7.97	2.160	7.372	Sediment on IP	6.37	225.0	135.0	3.60	19.0	79.3	284.3	Clear turbidity No odour
MW4027	23/07/2020	Q1	7.97	1.705	7.827	Sediment on IP	7.91	474.8	284.9	2.65	18.5	-145.0	60.6	Black, low turbidity, organic odour
MW4027	13/01/2021	Q1	8.00	1.745	7.787	Good condition	7.55	633.8	380.3	2.48	21.0	-158.4	44.6	Black, Medium Turbidity, Organic Odour
MW4027	03/08/2021	Q1	8.00	-	-	Could not access	Could not access - submerged in water							
MW4027	02/02/2022	Q1	7.89	1.409	8.123	Good condition	7.99	1081.2	702.8	1.84	20.6	-76.3	127.1	Grey / Brown, Turbid, No odour
MW4027	27/07/2022	Q1	7.89	0.923	8.609	Top of casing flooded	7.88	900.0	585.0	3.45	17.2	-117.7	89.1	Black / Grey, No odour, Medium Turbidity
MW4028	26/03/2020	Q1	-	-	-	Could not access	Could not access - bolts rounded							
MW4028	23/07/2020	Q1	-	2.335	8.061	Good condition	Gauged only							
MW4028	13/01/2021	Q1	8.00	2.158	8.238	Good condition	Gauged only							
MW4028	03/08/2021	Q1	8.00	2.190	8.206	Good condition	Gauged only							
MW4028	03/02/2022	Q1	7.92	2.242	8.154	Good condition	Gauged only							
MW4028	25/07/2022	Q1	7.92	1.741	8.655	Good condition	Gauged only							
MW4029	19/03/2020	Q1	8.43	3.740	8.176	Good condition	Gauged only							
MW4029	23/07/2020	Q1	8.43	3.243	8.673	Good condition	Gauged only							
MW4029	13/01/2021	Q1	8.50	3.255	8.661	Good condition	Gauged only							
MW4029	03/08/2021	Q1	8.50	3.022	8.894	Good condition	Gauged only							
MW4029	03/02/2022	Q1	8.41	3.125	8.791	Good condition	Gauged only							
MW4029	25/07/2022	Q1	8.41	2.802	9.114	Good condition	Gauged only							
MW4030	20/03/2020	Q1	8.36	2.815	8.940	Good condition	Gauged only							
MW4030	23/07/2020	Q1	8.36	2.365	9.390	Good condition	Gauged only							
MW4030	13/01/2021	Q1	8.50	2.475	9.280	Good condition	Gauged only							
MW4030	03/08/2021	Q1	8.50	2.022	9.733	Good condition	Gauged only							
MW4030	03/02/2022	Q1	8.37	2.221	9.534	Good condition	Gauged only							
MW4030	25/07/2022	Q1	8.37	2.235	9.520	Good condition	Gauged only							
MW4031	19/03/2020	Q2	23.10	3.695	8.136	Good condition	Gauged only							
MW4031	23/07/2020	Q2	23.10	3.255	8.576	Good condition	Gauged only							
MW4031	13/01/2021	Q2	24.00	3.215	8.616	Good condition	Gauged only							
MW4031	03/08/2021	Q2	24.00	3.076	8.755	Good condition	Gauged only							
MW4031	03/02/2022	Q2	23.12	3.111	8.720	Good condition	Gauged only							
MW4031	25/07/2022	Q2	23.12	2.766	9.065	Good condition	Gauged only							
MW4032	19/03/2020	Q2	19.47	4.193	8.755	Sediment on IP	Gauged only							
MW4032	22/07/2020	Q2	19.47	3.105	9.843	Sediment on IP	Gauged only							
MW4032	13/01/2021	Q2	19.50	3.470	9.478	Good condition	Gauged only							
MW4032	03/08/2021	Q2	19.50	3.039	9.909	Good condition	Gauged only							
MW4032	03/02/2022	Q2	9.52	2.940	10.008	Good condition	Gauged only							
MW4032	25/07/2022	Q2	9.52	2.495	10.453	Good condition	Gauged only							
MW4035	20/03/2020	Q2	22.51	3.631	10.104	Good condition	6.72	1869.0	1121.4	3.22	21.7	57.9	260.2	Light Brown Low turbidity No odour
MW4035	23/07/2020	Q2	22.51	2.775	10.960	Good condition	9.11	2578.3	1547.0	2.18	18.9	-220.1	-15.0	Clear, low turbidity, no odour
MW4035	13/01/2021	Q2	22.50	3.040	10.695	Good condition	9.61	2610.5	1566.3	1.97	23.6	-156.9	43.5	Clear, Low Turbidity, Slight Organic Odour
MW4035	05/08/2021	Q2	22.50	2.394	11.341	Good condition	9.29	2991.9	1944.7	2.38	19.1	177.5	382.4	Light Grey, Low Turbidity, Organic Odour
MW4035	03/02/2022	Q2	22.65	2.722	11.013	Good condition	8.36	3187.6	2071.9	2.05	20.6	-121.4	82.0	Clear, Low Turbidity, No odour
MW4035	28/07/2022	Q2	22.65	2.462	11.273	Good condition	7.63	2448.0	1591.0	1.18	18.7	-128.6	76.7	Light Brown, No odour, Low Turbidity
MW4037	24/03/2020	Q1	8.07	5.203	9.990	Sediment on IP, well label damaged	6.92	5644.0	3386.4	5.23	21.2	156.5	359.3	Clear Low turbidity No odour
MW4037	23/07/2020	Q1	8.07	3.995	11.198	Good condition	7.54	6404.4	3842.6	4.72	20.1	47.3	251.2	Clear, low turbidity, no odour
MW4037	13/01/2021	Q1	8.00	4.405	10.788	Good condition	8.30	6510.6	3906.4	3.23	25.1	81.6	280.5	Clear, Low Turbidity, No odour
MW4037	03/08/2021	Q1	8.00	3.677	11.516	Good condition	7.52	6422.8	4174.8	6.45	18.8	172.0	377.2	Light Brown, Low Turbidity, No odour
MW4037	03/02/2022	Q1	8.15	3.931	11.262	Good condition	7.42	5987.0	3891.6	3.28	23.5	57.9	258.4	Clear, No odour
MW4037	27/07/2022	Q1	8.15	3.540	11.653	Good condition	7.51	4781.0	3107.0	3.89	19.6	15.3	219.7	Light Brown, No odour, Low Turbidity
MW4041	24/03/2020	Q1	10.07	7.450	7.156	Good condition	6.85	4392.0	2635.2	4.02	19.7	148.8	353.1	Light Brown Low turbidity No odour
MW4041	22/07/2020	Q1	10.07	6.045	8.561	Good condition	7.16	6548.2	3928.9	2.80	18.9	12.7	217.8	Clear, low turbidity, no odour
MW4041	13/01/2021	Q1	10.00	6.520	8.086	Good condition	7.23	5123.8	3074.3	2.90	20.6	42.4	245.8	Light Brown, Medium Turbidity, No odour
MW4041	03/08/2021	Q1	10.00	5.875	8.731	Good condition	7.10	7836.0	5093.4	3.16	17.2	164.0	370.8	Light Brown, Low Turbidity, No odour
MW4041	03/02/2022	Q1	10.10	5.930	8.676	Good condition	7.36	4843.0	3148.0	2.44	22.5	79.2	280.7	Clear, Low Turbidity, No odour
MW4041	27/07/2022	Q1	10.10	5.407	9.199	Good condition	6.94	5200.0	3380.0	1.65	18.9	15.8	220.9	Light Brown, No odour, Low Turbidity
MW4043	20/03/2020	Q2	7.92	5.945	6.180	Good condition	Gauged only							
MW4043	22/07/2020	Q2	7.92	4.090	8.035	Good condition	Gauged only							
MW4043	13/01/2021	Q2	10.00	5.055	7.070	Good condition	Gauged only							
MW4043	03/08/2021	Q2	10.00	4.085	8.040	Good condition, well head flooded	Gauged only							
MW4043	03/02/2022	Q2	7.92	4.150	7.975	Good condition	Gauged only							
MW4043	25/07/2022	Q2	7.92	3.620	8.505	Good condition	Gauged only							

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW4045	24/03/2020	Q2	18.34	2.635	4.693	Sediment on IP	7.25	3266.0	1959.6	2.38	19.4	130.1	334.7	Light Grey Low turbidity Compost
MW4045	22/07/2020	Q2	18.34	1.675	5.653	Sediment on IP	7.99	3852.4	2311.4	4.32	18.5	-193.5	12.0	Clear, low turbidity, organic odour
MW4045	13/01/2021	Q2	18.00	2.340	4.988	Good condition	7.58	4104.5	2462.7	3.06	20.5	-91.6	111.9	Black / Grey, Low Turbidity, No odour
MW4045	03/08/2021	Q2	18.00	1.457	5.871	Good condition	7.68	4166.6	2708.3	3.77	17.9	-90.5	115.6	Light Grey, Medium Turbidity, No odour
MW4045	31/01/2022	Q2	19.00	0.802	6.526	Good condition	7.68	4053.0	2634.5	4.08	25.6	-56.2	142.2	Light Grey, Low Turbidity, Slight Organic Odour
MW4045	25/07/2022	Q2	19.00	1.586	5.742	Good condition	8.34	2924.0	1900.0	2.73	19.6	-73.6	130.8	Light Brown, Low Turbidity, No Odour
MW4046	25/03/2020	Q2	6.54	2.240	6.950	Sediment on IP	Gauged only							
MW4046	23/07/2020	Q2	6.54	1.455	7.735	Sediment on IP	Gauged only							
MW4046	14/01/2021	Q2	6.50	1.115	8.075	Good condition	Gauged only							
MW4046	03/08/2021	Q2	6.50	1.176	8.014	Good condition	Gauged only							
MW4046	03/02/2022	Q2	6.62	1.290	7.900	Good condition	Gauged only							
MW4046	25/07/2022	Q2	6.62	1.298	7.892	Good condition	Gauged only							
MW4047	20/03/2020	Q1	8.62	3.865	7.792	Sediment on IP	Gauged only							
MW4047	23/07/2020	Q1	8.62	2.815	8.842	Sediment on IP	Gauged only							
MW4047	14/01/2021	Q1	8.50	3.355	8.302	Good condition	Gauged only							
MW4047	04/08/2021	Q1	8.50	2.920	8.737	Good condition	Gauged only							
MW4047	03/02/2022	Q1	8.52	2.885	8.772	Good condition	Gauged only							
MW4047	25/07/2022	Q1	8.52	2.556	9.101	Good condition	Gauged only							
MW4048	25/03/2020	Q2	21.34	5.281	7.694	Sediment on IP	8.33	1047.0	628.2	2.23	21.0	65.8	268.8	Light Brown Low turbidity No odour
MW4048	22/07/2020	Q2	21.34	3.612	9.363	Sediment on IP	8.98	1050.9	630.5	5.22	17.7	-155.0	51.3	Clear, low turbidity, organic odour
MW4048	13/01/2021	Q2	21.00	4.040	8.935	Good condition	8.24	1619.1	971.5	2.94	24.8	105.2	304.4	Light Brown, Low Turbidity, No odour
MW4048	06/08/2021	Q2	21.00	3.219	9.756	Good condition	8.99	1109.0	720.9	3.43	18.9	-54.2	150.9	Grey, Low Turbidity, Organic Odour
MW4048	04/02/2022	Q2	20.98	3.746	9.229	Good condition	8.84	1055.8	686.3	1.54	18.7	-122.7	82.6	Light Brown, Medium Turbidity, No odour
MW4048	25/07/2022	Q2	20.98	3.313	9.662	Good condition	8.77	792.0	514.0	2.51	18.1	22.8	228.7	Light Brown, Low to Medium Turbidity, No Odour
MW4049	26/03/2020	Q1	-	-	-	Couldn't not access	Unable to gauge, needs traffic control							
MW4049	23/07/2020	Q1	8.40	2.335	8.308	Good condition	Gauged only							
MW4049	13/01/2021	Q1	8.50	1.740	8.903	Good condition	Gauged only							
MW4049	05/08/2021	Q1	8.50	2.130	8.513	Good condition	Gauged only							
MW4049	03/02/2022	Q1	8.40	2.028	8.615	Good condition	Gauged only							
MW4049	25/07/2022	Q1	8.40	1.737	8.906	Good condition	Gauged only							
MW4052	24/03/2020	Q1	9.48	5.932	6.125	Good condition	7.04	1501.0	900.6	2.29	19.9	142.4	346.5	Brown Medium turbidity No odour
MW4052	22/07/2020	Q1	9.48	4.795	7.262	Good condition	8.13	1381.4	828.8	4.50	18.7	-63.0	142.3	Light brown, medium turbidity, no odour
MW4052	13/01/2021	Q1	9.50	5.115	6.942	Good condition	7.73	1723.7	1034.2	3.96	20.8	-3.7	199.5	Light Brown, Medium Turbidity, No odour
MW4052	03/08/2021	Q1	9.50	4.442	7.615	Good condition	7.96	2122.0	1379.3	2.69	17.7	-54.2	152.1	Brown, Medium Turbidity, No odour
MW4052	03/02/2022	Q1	9.81	4.586	7.471	Good condition	7.92	1640.0	1066.0	2.18	22.2	53.5	255.3	Light Brown, Low Turbidity, No odour
MW4052	27/07/2022	Q1	9.81	4.149	7.908	Good condition	7.87	1015.0	659.0	3.36	19.0	-63.0	142.0	Orange / Brown, No odour, Medium Turbidity
MW4053	24/03/2020	Q1	8.21	2.782	4.668	Sediment on IP	7.09	2273.0	1363.8	3.88	19.7	134.1	338.4	Light Brown turbidity Compost odour
MW4053	22/07/2020	Q1	8.21	1.795	5.655	Sediment on IP	8.29	2134.7	1280.8	4.12	17.9	0.1	206.2	Light brown, low turbidity, no odour
MW4053	13/01/2021	Q1	8.50	2.485	4.965	Good condition	7.81	2470.2	1482.1	2.51	20.5	-14.3	189.2	Light Brown, Medium Turbidity, No odour
MW4053	03/08/2021	Q1	8.50	1.575	5.875	Good condition	8.05	2322.4	1509.6	5.43	18.1	41.0	246.9	Brown, Medium Turbidity, No odour
MW4053	31/01/2022	Q1	4.29	1.900	5.550	Good condition	7.68	2992.0	1944.8	3.49	30.7	29.0	222.3	Brown, Medium Turbidity, No odour
MW4053	25/07/2022	Q1	4.29	1.711	5.739	Good condition	8.14	2167.0	1408.0	2.62	19.0	-66.5	138.5	Light Brown, Low Turbidity, No Odour
MW4055	24/03/2020	Q1	9.05	3.590	4.293	Good condition	6.84	5253.0	3151.8	2.78	20.6	162.0	365.4	Light Brown Low turbidity No odour
MW4055	23/07/2020	Q1	9.05	2.585	5.298	Good condition	7.64	4798.3	2879.0	4.91	20.5	15.2	218.8	Light yellow, low turbidity, no odour
MW4055	13/01/2021	Q1	9.00	3.125	4.758	Good condition	7.46	4988.3	2993.0	3.90	21.4	-33.5	169.1	Light Brown, Medium Turbidity, No odour
MW4055	03/08/2021	Q1	9.00	2.148	5.735	Good condition	7.64	4849.2	3152.0	6.41	17.4	181.9	388.5	Yellow / Brown, Low Turbidity, No odour
MW4055	02/02/2022	Q1	9.00	2.667	5.216	Good condition	7.71	4748.3	3086.4	3.87	22.8	-40.7	160.5	Light Brown, Low Turbidity, No odour
MW4055	27/07/2022	Q1	9.00	2.219	5.664	Good condition	7.51	3606.0	2343.0	2.79	20.4	48.5	252.1	Orange / Brown, No odour, Medium Turbidity
MW4057	25/03/2020	Q1	7.98	1.528	7.901	Good condition	6.40	6380.0	3828.0	2.20	21.2	100.0	302.9	Brown Turbid turbidity No odour
MW4057	23/07/2020	Q1	7.98	1.208	8.221	Good condition	7.35	6379.7	3827.8	4.26	15.5	98.7	307.2	Light yellow, medium turbidity, organic odour
MW4057	14/01/2021	Q1	8.00	1.140	8.289	Good condition	7.93	7701.5	4620.9	2.13	19.7	62.6	266.9	Light Brown, Medium Turbidity, Slight Organic Odour
MW4057	05/08/2021	Q1	8.00	0.910	8.519	Good condition	8.30	6284.9	4085.2	5.28	17.5	239.7	446.2	Grey / Brown, Turbid, No odour
MW4057	03/02/2022	Q1	8.00	0.886	8.543	Good condition	7.99	6653.0	4324.5	2.86	19.2	-2.9	201.9	Grey / Brown, Medium Turbidity, No odour
MW4057	28/07/2022	Q1	8.00	0.878	8.551	Good condition	7.87	5711.0	3712.0	2.12	18.1	-118.3	87.6	Dark Brown, No odour, Turbid Turbidity
MW4058	24/03/2020	Q1	3.72	3.560	5.847	Sediment on IP, blocked at 3.7, installed sleeve	6.95	5265.0	3159.0	2.50	21.0	164.0	367.0	Black/grey Low turbidity Compost odour
MW4058	22/07/2020	Q1	5.25	3.105	6.302	Well unblocked, good condition	7.69	5816.6	3490.0	3.20	19.1	-24.5	180.4	Clear, low turbidity, organic odour
MW4058	13/01/2021	Q1	5.50	2.902	6.505	Good condition	7.04	7887.8	4732.7	2.38	21.0	-89.5	113.5	Brown, Medium Turbidity, Organic Odour
MW4058	03/08/2021	Q1	5.50	2.936	6.471	Good condition	7.84	2994.0	1946.1	5.28	15.7	39.3	247.6	Light Brown, Low Turbidity, Compost
MW4058	02/02/2022	Q1	5.25	2.674	6.733	Good condition	7.30	6859.8	4458.9	1.73	20.8	-64.8	138.4	Black / Grey, Turbid, Organic Odour
MW4058	25/07/2022	Q1	5.25	2.557	6.850	Good condition	7.74	4049.0	2631.0	1.43	18.8	99.9	305.1	Grey/green, Medium Turbidity, No Odour

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW4059	20/03/2020	Q1	7.90	2.447	7.757	covered in sand and grass	6.75	9440.0	5664.0	4.96	23.2	46.7	247.5	Brown Medium turbidity No odour
MW4059	22/07/2020	Q1	7.90	1.970	8.234	Good condition	7.50	14776.7	8866.0	4.26	17.6	-28.3	178.1	Light yellow, low turbidity, no odour
MW4059	13/01/2021	Q1	8.00	2.030	8.174	Good condition	6.50	13699.0	8219.4	3.02	20.1	230.1	434.0	Light Brown, Medium Turbidity, No odour
MW4059	03/08/2021	Q1	8.00	1.940	8.264	Good condition	7.34	14018.0	9111.7	6.36	15.9	152.0	360.1	Brown, Medium Turbidity, No odour
MW4059	02/02/2022	Q1	8.00	1.776	8.428	Good condition	7.23	15179.2	9866.5	1.90	21.8	-28.2	174.0	Light Brown, Low Turbidity, No odour
MW4059	27/07/2022	Q1	8.00	1.150	9.054	Good condition	7.51	10412.0	6767.0	3.40	18.5	-177.0	28.5	Light Brown, No odour, Low Turbidity
MW4060	20/03/2020	Q1	6.44	3.078	8.308	sandy gatic	6.87	9245.0	5547.0	2.97	22.4	24.3	225.9	Light Brown Low turbidity No odour
MW4060	22/07/2020	Q1	6.44	2.405	8.981	Good condition	7.75	9593.2	5755.9	3.46	17.6	-58.4	148.0	Light grey, low turbidity, no odour
MW4060	12/01/2021	Q1	6.90	2.575	8.811	Good condition	7.33	10024.5	6014.7	1.51	23.0	-13.0	188.0	Light Brown, Low Turbidity, No odour
MW4060	03/08/2021	Q1	6.90	2.300	9.086	Bolts damaged	7.87	2668.0	1734.2	6.28	16.24	76.9	284.66	Yellow / Brown, Turbid, No odour
MW4060	02/02/2022	Q1	7.00	2.220	9.166	Bolts damaged	7.74	2196.6	1427.79	4.52	21.6	-35.7	166.7	Black / Grey, Turbid, No odour
MW4060	27/07/2022	Q1	7.00	1.618	9.768	Bolts damaged	7.47	5594.0	3636.0	1.75	18.1	-84.1	121.8	Light Brown, No odour, Low Turbidity
MW4061	19/03/2020	Q1	19.72	5.040	11.498	roots on ip	6.60	4530.0	2718.0	3.57	20.3	23.0	226.7	Light Brown Low turbidity Septic odour
MW4061	22/07/2020	Q1	19.72	4.805	11.733	Good condition	6.65	4637.2	2782.32	4.04	17.29	108.0	314.71	Light brown, medium turbidity, no odour
MW4061	12/01/2021	Q1	8.00	4.620	11.918	Good condition	7.19	5345.1	3207.06	2.52	23.21	-115.0	85.79	Light Brown, Medium Turbidity, No odour
MW4061	03/08/2021	Q1	8.00	-	-	Could not access	Could not access - submerged in water							
MW4061	02/02/2022	Q1	7.95	4.437	12.101	Good condition	7.34	6049.5	3932.175	2.08	22.49	-40.0	161.51	Light Brown, Low Turbidity, No odour
MW4061	25/07/2022	Q1	7.95	4.277	12.261	Good condition	7.47	3361.0	2184.0	1.18	17.3	52.4	259.1	Light Brown, No odour, Medium Turbidity
MW4063	26/03/2020	Q1	-	-	-	Lost/destroyed	Lost/destroyed							
MW4063	23/07/2020	Q1	8.50	-	-	Lost/destroyed	Destroyed							
MW4064	24/03/2020	Q1	7.75	2.146	3.739	Sediment on IP	6.72	6832.0	4099.2	4.34	20.31	163.0	366.69	Light Brown Medium turbidity No odour
MW4064	23/07/2020	Q1	7.75	1.240	4.645	Sediment on IP	8.07	2400.0	1440.0	7.17	18.72	-49.0	156.28	Clear, low turbidity, no odour
MW4064	13/01/2021	Q1	8.00	1.635	4.250	Good condition	7.54	6227.4	3736.44	3.64	20.87	-91.3	111.83	Light Brown, Low Turbidity, No odour
MW4064	03/08/2021	Q1	8.00	0.758	5.127	Good condition	7.54	5922.1	3849.365	5.68	16.78	78.2	285.42	Light Brown, Low Turbidity, No odour
MW4064	02/02/2022	Q1	7.81	1.335	4.550	Good condition	7.62	4016.7	2610.855	1.86	22.8	-55.4	145.8	Light Brown, Medium Turbidity, No odour
MW4064	28/07/2022	Q1	7.81	0.954	4.931	Good condition	7.78	3411.0	2217.0	5.15	18.8	-93.7	111.5	Brown, No odour, Low Turbidity
MW4065	19/03/2020	Q2	20.28	6.321	11.433	Good condition	6.71	4602.0	2761.2	2.13	20.4	14.0	217.6	Light Brown Low turbidity Organic Odour
MW4065	22/07/2020	Q2	20.28	6.055	11.699	Good condition	7.05	4708.6	2825.16	3.07	17.82	-173.9	32.28	Black, medium turbidity, organic odour
MW4065	12/01/2021	Q2	20.00	6.020	11.734	Good condition	7.24	4884.1	2930.46	1.96	24.47	-91.4	108.13	Light Brown, Medium Turbidity, Organic Odour
MW4065	02/08/2021	Q2	20.00	6.045	11.709	Good condition	7.35	5536.8	3598.92	4.011	16.6	-54.9	152.5	Black / Grey, Medium Turbidity, Organic Odour
MW4065	02/02/2022	Q2	20.04	5.889	11.865	Good condition	7.44	4890.6	3178.9	2.28	21.6	-80.2	122.2	Light Brown, Turbid, Organic Odour
MW4065	27/07/2022	Q2	20.04	5.695	12.059	Good condition	7.39	3923.0	2549.0	1.65	18.9	-37.4	167.7	Light Brown, No odour, Medium Turbidity
MW4066	25/03/2020	Q2	17.45	1.546	7.932	Good condition	6.40	107.5	64.5	1.78	21.3	63.9	266.6	Clear Low turbidity No odour
MW4066	23/07/2020	Q2	17.45	1.328	8.150	Good condition	7.47	13590.7	8154.4	2.66	15.8	112.5	320.7	Clear, low turbidity, organic odour
MW4066	14/01/2021	Q2	18.00	1.260	8.218	Good condition	8.00	13259.2	7955.52	2.58	20.17	74.1	277.93	Light Brown, Medium Turbidity, Slight Organic Odour
MW4066	05/08/2021	Q2	18.00	1.043	8.435	Good condition	8.53	14368.8	9339.72	5.61	17.4	205.4	412.0	Light Brown, Low Turbidity, No odour
MW4066	03/02/2022	Q2	18.00	1.005	8.473	Good condition	8.01	12640.0	8216.0	3.48	19.5	42.6	247.2	Clear, Low Turbidity, No odour
MW4066	28/07/2022	Q2	18.00	0.994	8.484	Gatic flooded below top of casing	7.77	10760.0	6994.0	2.74	18.1	-108.8	97.1	Clear, Slight Organic Odour, Low Turbidity
MW4068	20/03/2020	Q3	45.82	18.705	-4.956	Sediment on IP, bolts need replacing	11.00	7471.0	4482.6	2.23	20.7	-32.0	171.3	Light Brown Low turbidity No odour
MW4068	23/07/2020	Q3	45.82	7.445	6.304	Good condition	12.17	4970.5	2982.3	4.15	17.7	-64.1	142.2	Clear, low turbidity, no odour
MW4068	13/01/2021	Q3	45.00	14.295	-0.546	Good condition	11.94	5819.1	3491.46	1.76	24.54	-99.1	100.36	Clear, Low Turbidity, No odour
MW4068	05/08/2021	Q3	45.00	6.597	7.152	Good condition	12.02	3495.4	2272.01	4.04	18.77	98.0	303.23	Clear, Low Turbidity, No odour
MW4068	31/01/2022	Q3	44.60	10.759	2.990	Good condition	7.75	2843.0	1847.95	3.49	27.41	153.0	349.59	Clear, Low Turbidity, No odour
MW4068	25/07/2022	Q3	44.60	6.481	7.268	Good condition	11.68	2322.0	1509.0	1.57	19.4	-57.6	147.0	Clear, No Turbidity, Slight Organic Odour
MW4069	25/03/2020	Q3	35.25	5.200	7.720	Good condition	7.69	2572.0	1543.2	1.95	21.24	103.4	306.16	Light Brown Low turbidity No odour
MW4069	22/07/2020	Q3	35.25	3.695	9.225	Good condition	8.13	3213.1	1927.86	3.55	17.69	-93.2	113.11	Brown, medium turbidity, no odour
MW4069	13/01/2021	Q3	36.00	4.495	8.425	Good condition	7.46	2979.5	1787.7	1.68	34.12	-88.5	101.38	Light Brown, Low Turbidity, No odour
MW4069	06/08/2021	Q3	36.00	3.352	9.568	Good condition	9.01	3009.0	1955.85	2.83	18.63	-55.5	149.87	Brown, Medium Turbidity, Slight Organic Odour
MW4069	31/01/2022	Q3	-	3.800	9.120	Good condition	-	-	-	-	-	-	-	
MW4069	04/02/2022	Q3	34.80	3.821	9.099	Good condition	9.29	3187.3	2071.745	2.37	18.82	-119.6	85.58	Light Brown, Medium Turbidity, No odour
MW4069	25/07/2022	Q3	-	3.388	9.532	Good condition	8.89	1071.0	696.0	1.72	18.0	7.7	213.7	Light Brown, Low to Medium Turbidity, No Odour
MW4070	24/03/2020	Q3	33.75	2.093	5.218	Sediment on IP	7.39	2507.0	1504.2	2.70	19.4	106.8	311.4	Light Brown Low turbidity Slight Organic Odour
MW4070	22/07/2020	Q3	33.75	1.455	5.856	Sediment on IP	8.13	2552.9	1531.74	3.91	19.07	-162.1	42.83	Light brown, low turbidity, no odour
MW4070	13/01/2021	Q3	45.00	1.825	5.486	Good condition	7.73	2712.8	1627.7	3.95	20.7	-115.9	87.5	Black / Grey, Medium Turbidity, No odour
MW4070	03/08/2021	Q3	45.00	1.475	5.836	Good condition	7.74	2761.6	1795.04	4.65	17.56	-64.2	142.24	Black, Turbid, Organic Odour
MW4070	31/01/2022	Q3	45.00	1.701	5.610	Good condition	7.52	2715.0	1764.75	1.98	26.5	-83.4	114.1	Grey / Brown, Medium Turbidity, Organic Odour
MW4070	25/07/2022	Q3	45.00	1.448	5.863	Good condition	9.27	2092.0	1359.0	2.82	18.7	-187.9	17.4	Grey, Medium Turbidity, Organic Odour

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW4071	20/03/2020	Q3	38.58	3.567	8.442	Sediment on IP, bentonite damaged	6.93	10583.0	6349.8	1.69	21.3	-69.4	133.3	Light Grey Low turbidity No odour
MW4071	22/07/2020	Q3	38.58	2.885	9.124	Good condition	7.6	13664.2	8198.52	3.48	19.05	-241.4	-36.45	Clear, low turbidity, no odour
MW4071	12/01/2021	Q3	30.00	3.075	8.934	Good condition	7.34	14308.6	8585.16	1.91	24.38	-230.9	-31.28	Clear, Low to Medium Turbidity, Organic Odour
MW4071	03/08/2021	Q3	30.00	2.945	9.064	Good condition	7.33	14405.0	9363.25	3.06	17.01	-256.0	-49.01	Light Grey, Low Turbidity, Organic Odour
MW4071	31/01/2022	Q3	29.60	2.915	9.094	Good condition	6.99	8145.0	5294.25	2.56	28.39	-215.6	-19.99	Clear, Low Turbidity, Organic Odour
MW4071	25/07/2022	Q3	29.60	2.251	9.758	Good condition	7.9	7501.0	4875.0	2.82	19.6	-209.5	-5.1	Grey/brown, Low Turbidity, Organic Odour
MW4072	24/03/2020	Q1	12.99	10.674	6.473	Good condition	6.81	3350.0	2010.0	5.42	20.23	145.4	349.17	Brown Medium turbidity Slight Organic Odour
MW4072	22/07/2020	Q1	12.99	9.250	7.897	Good condition	7.43	3177.9	1906.74	5.65	19.61	37.5	241.89	Light brown, medium turbidity, no odour
MW4072	13/01/2021	Q1	13.00	9.655	7.492	Good condition	7.73	872.7	523.62	7.21	20.65	15.9	219.25	Light Brown, Low to Medium Turbidity, Slight Organic Odour
MW4072	03/08/2021	Q1	13.00	9.877	7.270	Good condition	7.9	1189.0	772.85	7.07	16.65	59.4	266.75	Brown, Medium Turbidity, No odour
MW4072	03/02/2022	Q1	13.90	9.600	7.547	Good condition	7.94	1817.0	1181.05	7.91	22.47	46.9	248.43	Clear, Low Turbidity, No odour
MW4072	27/07/2022	Q1	13.90	9.194	7.953	Good condition	7.39	1525.0	991.0	2.47	19.9	-12.4	191.7	Light Brown, No odour, Low Turbidity
MW4073	26/03/2020	Q3	12.80	12.551	-3.093	blocked at 12.8m. roots on lp	Insufficent water for field parameters							
MW4073	23/07/2020	Q3	43.00	2.860	6.598	PVC casing bent, additional weights on sleeve	7.66	15157.6	9094.56	5.04	17.85	111.3	317.45	Brown, medium turbidity, organic odour
MW4073	14/01/2021	Q3	43.50	7.115	2.343	Good condition	8.95	12856.1	7713.66	4.54	20.04	61.8	265.76	Light Brown, Medium Turbidity, No odour
MW4073	05/08/2021	Q3	43.50	1.256	8.202	Good condition	9.39	13901.2	9035.78	3.84	18.04	139.1	345.06	Brown, Medium Turbidity, No odour
MW4073	31/01/2022	Q3	-	1.560	7.898	Good condition	-	-	-	-	-	-	-	
MW4073	31/01/2022	Q3	42.30	1.614	7.844	Good condition	9.15	14654.0	9525.1	2.76	19.98	-38.8	165.22	Clear, Low Turbidity, Organic Odour
MW4073	28/07/2022	Q3	-	1.104	8.354	Good condition	8.4	11158.0	7252.0	3.37	18.3	-207.2	-1.5	Black/ Grey, Slight Organic Odour, Low Turbidity
MW4074	24/03/2020	Q3	39.53	6.246	7.814	Good condition	6.63	4326.0	2595.6	5.56	20.7	148.9	352.2	Light Brown Low turbidity Slight Organic Odour
MW4074	22/07/2020	Q3	39.53	4.790	9.270	Good condition	7.70	4878.2	2926.92	6.47	19.47	-38.3	166.23	Light yellow, medium turbidity, no odour
MW4074	13/01/2021	Q3	39.00	5.355	8.705	Good condition	7.24	5217.0	3130.2	5.78	21.47	42.8	245.33	Light Brown, Low Turbidity, No odour
MW4074	03/08/2021	Q3	39.00	4.559	9.501	Good condition	7.36	5439.8	3535.9	6.66	18.6	201.4	406.9	Clear, Low Turbidity, No odour
MW4074	31/01/2022	Q3	37.50	4.706	9.354	Good condition	7.53	2541.0	1651.65	5.83	27.17	145.8	342.63	Light Brown, Low Turbidity, No odour
MW4074	25/07/2022	Q3	37.50	4.325	9.735	Good condition	8.32	2048.0	1331.0	2.58	17.7	-160.2	46.1	Grey, Medium Turbidity, Organic Odour. Fine suspended sediment
MW4075	25/03/2020	Q4	48.12	9.657	3.402	Sediment on IP	10.14	3407.0	2044.2	1.53	23.28	55.0	255.72	Yellow / Brown Low turbidity Compost odour
MW4075	22/07/2020	Q4	48.12	5.500	7.559	Sediment on IP	11.54	2800.3	1680.18	2.28	19.21	-215.6	-10.81	Light brown, low turbidity, no odour
MW4075	13/01/2021	Q4	48.00	8.605	4.454	Good condition	9.67	2396.5	1437.9	2.44	24.01	-189.1	10.89	Milky White, Medium Turbidity, No odour
MW4075	06/08/2021	Q4	48.00	5.014	8.045	Good condition	9.22	2951.0	1918.15	4.07	17.66	-181.8	24.54	Grey, Turbid, Organic Odour
MW4075	31/01/2022	Q4	-	7.002	6.057	Good condition	-	-	-	-	-	-	-	
MW4075	04/02/2022	Q4	48.00	7.116	5.943	Good condition	11.04	2899.2	1884.48	1.12	19.18	-207.3	-2.48	White, Turbid, No odour
MW4075	25/07/2022	Q4	-	4.715	8.344	Good condition	11.39	1823.0	1184.0	2.35	17.6	-126.9	79.5	Clear, No Turbidity, Calcium Odour
MW4076	24/03/2020	Q2	17.91	2.543	5.399	Sediment on IP	6.88	15346.0	9207.6	2.64	19.7	183.2	387.5	Clear Low turbidity No odour
MW4076	23/07/2020	Q2	17.91	1.515	6.427	Sediment on IP	7.93	2920.0	1752.0	3.80	18.9	-222.7	-17.6	Black, medium turbidity, organic odour
MW4076	13/01/2021	Q2	18.00	1.865	6.077	Good condition	7.64	3534.0	2120.4	3.28	21.7	-192.7	9.6	Black, Medium Turbidity, Organic Odour
MW4076	03/08/2021	Q2	18.00	-	-	Could not access, submerged in water	Could not access							
MW4076	03/08/2021	Q2	-	-	-	Could not access, submerged in water	Could not access							
MW4076	28/07/2022	Q2	-	1.022	6.920	Good condition	7.46	1908.0	1240.0	2.67	18.5	-176.9	28.6	Black / Grey, Organic Odour, Turbid
MW4077	20/03/2020	Q2	17.95	2.497	7.735	Good condition	6.63	14053.0	8431.8	2.85	22.05	48.7	250.65	Light Brown Low turbidity No odour
MW4077	22/07/2020	Q2	17.95	1.995	8.237	Good condition	7.36	15220.9	9132.54	4.21	18.51	-201.2	4.29	Black, low turbidity, organic odour
MW4077	13/01/2021	Q2	18.00	2.060	8.172	Good condition	6.79	15901.6	9541.0	2.49	20.7	-6.2	197.1	Light Brown, Medium Turbidity, Organic Odour
MW4077	03/08/2021	Q2	18.00	1.957	8.275	Good condition	7.4	15689.0	10197.85	3.27	17.23	-104.9	101.87	Other, Medium Turbidity, Organic Odour
MW4077	02/02/2022	Q2	18.00	1.795	8.437	Good condition	7.20	13993.9	9096.0	1.98	21.7	-142.1	60.2	Black / Grey, Medium Turbidity, Organic Odour
MW4077	27/07/2022	Q2	18.00	1.162	9.070	Good condition	7.82	9782.0	6358.0	1.25	18.2	-253.0	-47.2	Light Brown, Organic Odour, Low Turbidity
MW4078	24/03/2020	Q4	54.30	14.084	-4.547	Sediment on IP, well was blocked with roots	7.02	18119.0	10871.4	4.84	20.19	175.9	379.71	Clear Low turbidity No odour
MW4078	22/07/2020	Q4	54.30	7.095	2.442	Good condition	7.32	20053.4	12032.0	3.32	18.5	-50.6	154.9	Clear, low turbidity, no odour
MW4078	13/01/2021	Q4	54.00	13.825	-4.288	Good condition	7.04	20649.6	12389.76	3.18	20.85	-13.9	189.25	Clear, Low Turbidity, No odour
MW4078	03/08/2021	Q4	54.00	5.681	3.856	Good condition	7.27	21076.0	13699.4	4.45	16.12	10.3	218.18	Clear, , No odour
MW4078	31/01/2022	Q4	53.20	12.114	-2.577	Good condition	6.1	18264.0	11871.6	4.31	22.7	184.0	385.3	Light Yellow, Low Turbidity, No odour
MW4078	25/07/2022	Q4	53.20	5.520	4.017	Good condition	8.31	12431.0	8080.0	1.39	19.8	101.8	306.0	Clear, Low Turbidity, No Odour
MW4079	26/03/2020	Q4	54.47	13.345	-3.840	Sediment on IP	11.58	130.2	78.12	3.85	23.52	-21.9	178.58	Light Brown Low turbidity No odour
MW4079	23/07/2020	Q4	54.47	6.065	3.440	Sediment on IP	12.51	1474.2	884.52	3.53	17.47	-62.3	144.23	Clear, low turbidity, no odour
MW4079	14/01/2021	Q4	57.00	11.695	-2.190	Good condition	4.9	13668.2	8200.92	4.88	20.92	-66.9	136.18	Milky White, Medium Turbidity, No odour
MW4079	05/08/2021	Q4	57.00	4.924	4.581	Good condition	12.89	13651.0	8873.15	7.43	17.05	41.3	248.25	Clear, Clear, No odour
MW4079	31/01/2022	Q4	57.01	9.830	-0.325	Good condition	12.22	12739.0	8280.35	5.51	19.86	-86.4	117.74	Clear, Low Turbidity, No odour
MW4079	28/07/2022	Q4	57.01	4.755	4.750	Good condition	12.43	9844.0	6398.0	3.89	18.1	-52.6	153.3	Clear, No odour, Low Turbidity

Table T1: Historical Groundwater Field Parameters

Location ID	Date	Targeted Aquifer	Depth of Well (m BTOC)	Depth to Water (m BTOC)	Corrected Groundwater Elevation (m AHD)	Well Condition	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential (Field measurment)	Redox Potential (Corrected)	Comments
							pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
MW4218	19/08/2020	Q1	9.83	7.711	14.146	Good condition	6.63	23582.0	14149.2	1.25	17.4	169.6	376.2	Brown, medium turbidity, no odour
MW4218	12/01/2021	Q1	10.00	7.655	14.202	Good condition	6.99	23782.5	14269.5	3.09	24.69	16.4	215.71	Light Brown, Medium Turbidity, No odour
MW4218	02/08/2021	Q1	10.00	7.718	14.139	Good condition	6.90	16176.3	10514.6	1.97	17.4	-103.7	102.9	Light Brown, Medium Turbidity, No odour
MW4218	02/02/2022	Q1	9.70	7.363	14.494	Good condition	6.68	20314.0	13204.1	1.41	20.02	-115.0	88.98	Black/ Grey, Turbid, No odour
MW4218	27/07/2022	Q1	9.70	7.265	14.592	Good condition	6.71	17176.0	11164.0	1.09	19.7	-143.9	60.4	Black/ Grey, Organic Odour, Medium Turbidity
MW4219	23/07/2020	Q1	8.40	2.315	6.663	Good condition	7.66	14749.0	8849.4	3.57	19.07	23.4	228.33	Light brown, high turbidity, no odour
MW4219	13/01/2021	Q1	8.50	2.595	6.383	Good condition	7.53	11672.9	7003.74	3.86	21.2	4.2	207.0	Light Brown, Medium Turbidity, No odour
MW4219	03/08/2021	Q1	8.50	1.915	7.063	Good condition	7.55	11937.0	7759.1	4.23	18.3	102.7	308.4	Light Brown, Low Turbidity, No odour
MW4219	03/02/2022	Q1	8.50	2.123	6.855	Good condition	7.57	11494.1	7471.165	4.54	22.36	17.7	219.34	Light Brown, Low Turbidity, No odour
MW4219	28/07/2022	Q1	8.50	1.754	7.224	Good condition	7.7	8696.0	5652.0	4.31	20.5	-38.7	164.8	Light Brown, No odour, Medium Turbidity
MW4220	24/03/2020	T1	105.00	19.950	-	Key from DEW required for access	6.92	1480.0	888.0	2.88	21.19	133.0	335.81	Clear Low turbidity No odour
MW4220	23/07/2020	T1	105.00	7.885	-	Key from DEW required for access	7.94	1502.7	901.62	2.12	20.67	-124.1	79.23	Clear, low turbidity, no odour
MW4220	13/01/2021	T1	105.00	15.540	-	Key from DEW required for access	8.17	1051.35	630.81	2.41	23.07	-106.4	94.53	Clear, Low Turbidity, No odour
MW4220	03/08/2021	T1	105.00	6.366	-	Key from DEW required for access	7.76	1853.1	1204.5	4.33	18.0	-69.1	136.9	Clear, Low Turbidity, No odour
MW4220	03/02/2022	T1	105.00	4.460	-	Key from DEW required for access	8.72	1523.0	989.95	2.26	22.53	-149.6	51.87	Clear, Low Turbidity, No odour
MW4220	27/07/2022	T1	105.00	6.406	-	Key from DEW required for access	7.69	1346.0	874.0	1.20	20.8	-83.3	119.9	Clear, No odour, Low Turbidity
MW4221	24/03/2020	T1	-	-	-	Good condition	7.15	1784.0	1070.4	4.21	20.8	123.1	326.3	Clear Low turbidity No odour
MW4221	24/07/2020	T1	-	-	-	Good condition	7.62	2045.6	1227.36	2.60	19.6	-53.8	150.6	Clear, low turbidity, no odour
MW4221	19/01/2021	T1	-	-	-	Good condition	6.14	2084.6	1250.76	3.46	19.5	118.3	322.8	Clear, No Turbidity, No Odour
MW4221	06/08/2021	T1	-	-	-	Good condition	7.7	2461.0	1599.65	3.87	18.03	-34.7	171.27	Clear, No odour
MW4221	04/02/2022	T1	-	-	-	Good condition	7.32	2005.0	1303.25	3.45	20.3	-49.1	154.6	Clear, Low Turbidity, No odour
MW4221	25/07/2022	T1	-	-	-	Good condition	7.76	1562.0	1015.0	3.59	20.9	54.9	258.0	Clear, No Turbidity, No Odour
MW4222	24/03/2020	T1	-	-	-	Good condition	7.09	1374.0	824.4	3.17	19.9	105.6	309.7	Clear Low turbidity Septic
MW4222	24/07/2020	T1	-	-	-	Good condition	7.70	1269.8	761.88	1.71	19.1	-123.8	81.1	Clear, low turbidity, no odour
MW4222	19/01/2021	T1	-	-	-	Good condition	7.12	1356.0	813.6	3.91	21.3	44.5	247.2	Clear, No Turbidity, No Odour
MW4222	06/08/2021	T1	-	-	-	Good condition	7.63	1446.5	940.225	2.86	19.8	-87.2	117.0	Clear, No odour
MW4222	04/02/2022	T1	-	-	-	Good condition	7.40	1339.0	870.35	1.02	20.3	-76.6	127.2	Clear, Low Turbidity, No odour
MW4222	25/07/2022	T1	-	-	-	Good condition	7.66	1052.0	683.0	2.07	21.2	-65.4	137.4	Clear, No Turbidity, No Odour
MW4223	24/03/2020	Q2	-	-	-	Good condition	6.84	5740.0	3444.0	2.78	18.8	121.3	326.5	Clear Low turbidity Slight Organic Odour
MW4223	24/07/2020	Q2	-	-	-	Good condition	6.92	5115.2	3069.12	6.78	12.3	25.3	237.0	Brown, medium turbidity, no odour
MW4223	15/01/2021	Q2	-	-	-	Good condition	7.84	3766.4	2259.852	2.81	20.4	-131.4	72.2	Clear, Low Turbidity, No odour
MW4223	03/08/2021	Q2	-	-	-	Good condition	6.40	5892.4	3830.06	5.63	19.4	37.4	242.0	Clear, Low Turbidity, No odour
MW4223	04/02/2022	Q2	-	-	-	Good condition	7.47	5581.0	3627.65	5.29	20.9	-51.4	151.7	Clear, No odour
MW4223	29/07/2022	Q2	-	-	-	Good condition	7.38	4117.0	2676.0	3.68	19.3	-37.9	166.8	Clear, No odour

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

Table T2: Groundwater Historical PFAS Analytical Results

Location Code	Aquifer	Field ID	Date	Lab Report	PFAS: Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
MW2112	Q1	0939_GW2112_S_170803	3/08/2017	557534	15	0.45	4.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.41	0.23	0.02	0.88	0.28	0.17	0.06	<0.01	<0.01	0.34	0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	19.4	22.49
MW2112	Q1	0939_GW2112_S_180628	28/06/2018	605771	7.1	0.17	1.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	0.09	<0.01	0.34	0.12	0.06	0.01	<0.01	<0.01	0.15	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8.8	10.01
MW2112	Q1	0939_MW2112_200323	23/03/2020	ES2010099	4.75	0.11	0.97	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.04	<0.02	0.18	0.08	0.04	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.72	6.33
MW2112	Q1	0939_MW2112_200721	21/07/2020	EM2012633	5.92	0.10	0.98	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.05	<0.02	0.18	0.12	0.04	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	6.90	7.58
MW2112	Q1	0939_MW2112_210114	14/01/2021	EM2100517	2.81	0.06	0.51	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	<0.02	<0.02	0.10	0.07	0.03	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	3.32	3.71
MW2112	Q1	0939_MW2112_210812	12/08/2021	EM2116269	3.72	0.05	0.6	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.04	<0.04	<0.04	0.09	0.05	<0.04	<0.04	<0.04	<0.04	0.04	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	4.32	4.59
MW2112	Q1	0939_MW2112_220201	1/02/2022	EM2202065	2.23	0.05	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.07	0.03	0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.65	2.91
MW2112	Q1	0939_MW2112_220725	25/07/2022	EM2214753	2.70	0.06	0.59	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.08	0.04	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	3.29	3.60
MW2114	Q1	0939_GW2114_S_170803	3/08/2017	557534	7.2	0.68	5.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.72	0.2	<0.01	1.2	0.39	0.28	<0.01	<0.01	<0.01	0.67	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	12.4	16.7
MW2114	Q1	0939_GW2114_S_180629	29/06/2018	605762	35	3.3	24	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	3.8	1.3	0.02	6.4	2.1	1.5	<0.01	<0.01	<0.01	4.4	0.85	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	59	82.79
MW2114	Q1	0939_MW2114_200325	25/03/2020	ES2010468	55.1	5.44	33.1	<0.05	0.18	<0.05	<0.05	<0.05	<0.05	<0.12	7.18	2.10	<0.05	10.4	4.08	2.44	<0.05	<0.05	<0.05	7.35	0.6	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	88.2	128
MW2114	Q1	0939_MW2114_200721	21/07/2020	EM2012633	106	8.56	59.4	<0.05	0.30	<0.05	<0.05	<0.05	<0.05	<0.12	13.5	3.46	<0.05	18.5	6.60	4.28	<0.05	<0.05	<0.05	11.8	2.8	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	165	235
MW2114	Q1	0939_MW2114_210112	12/01/2021	EM2100359	104	8.78	63.9	<0.05	0.36	<0.05	<0.05	<0.04	<0.04	<0.10	13.3	3.31	<0.04	17.0	6.91	4.47	<0.04	<0.04	<0.04	12.3	2.2	<0.10	<0.10	<0.10	<0.10	<0.04	<0.04	<0.04	168	236
MW2114	Q1	0939_MW2114_210802	2/08/2021	EM2115885	108	11.3	67.6	<0.05	0.43	<0.05	<0.05	<0.04	<0.04	<0.09	11.2	3.9	<0.04	21.7	8.72	4.62	<0.04	<0.04	<0.04	14.8	2.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	176	254
MW2114	Q1	0939_MW2114_220201	1/02/2022	EM2202065	138	12.2	75.2	<0.05	0.51	<0.05	<0.05	<0.04	<0.04	<0.1	21.1	4.68	<0.04	24.8	12.5	6.44	<0.04	<0.04	<0.04	18.3	1.9	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	213	316
MW2114	Q1	0939_MW2114_220726	26/07/2022	EM2214753	130	12.2	83.0	<0.05	0.57	<0.05	<0.05	<0.03	<0.03	<0.08	17.8	4.79	0.04	22.2	10.8	6.28	<0.03	<0.03	<0.03	17.0	2.2	<0.08	<0.08	<0.03	<0.08	<0.03	<0.03	<0.08	213	307
MW2116	Q1	0939_GW2116_S_170727	27/07/2017	556590	14,000	500	9,100	<20	<20	<20	<20	<20	<20	<20	1,100	380	<20	1,900	710	220	<20	<20	<20	1,200	290	<20	<20	<20	<20	<20	<20	<20	23,100	29,400
MW2116	Q1	0939_GW2116_S_180629	29/06/2018	605762	6,400	310	4,800	<2	<2	<2	<2	<2	<2	<2	590	230	<2	1,200	350	130	<2	<2	<2	550	150	<2	<2	<2	<2	<2	<2	<2	11,200	14,710
MW2116	Q1	0939_MW2116_200324	24/03/2020	ES2010468	13,000	582	9,980	<0.50	0.70	<0.50	<0.50	<0.50	<0.50	<1.25	1,250	392	3.30	2,040	805	222	<0.50	<0.50	<0.50	919	84.0	<1.25	<1.25	<1.25	<1.25	<0.50	3.65	<0.50	23,000	29,300
MW2116	Q1	0939_MW2116_200721	21/07/2020	EM2012633	13,200	638	10,200	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<12.5	1,450	479	<5.00	2,130	841	292	<5.00	<5.00	<5.00	1,090	281	<12.5	<12.5	<12.5	<12.5	<5.00	<5.00	<5.00	23,400	30,600
MW2116	Q1	0939_MW2116_210112	12/01/2021	EM2100359	7,320	219	3,710	<0.05	0.33	0.17	<0.05	<0.04	<0.04	<0.09	436	143	1.06	734	304	100	0.45	<0.04	0.17	348	53.7	<0.09	<0.09	<0.09	<0.09	<0.04	3.92	<0.04	11,000	13,400
MW2116	Q1	0939_MW2116_210802	2/08/2021	EM2115885	6860	192	2700	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.93	263	115	0.44	674	250	74.9	<0.37	<0.37	<0.37	277	20.3	<0.93	<0.93	<0.93	<0.93	<0.37	<0.37	<0.37	9,560	11,400
MW2116	Q1	0939_MW2116_220204	4/02/2022	EM2202066	6130	194	2730	<0.38	1.03	<0.38	<0.38	<0.38	<0.38	<0.94	356	132	0.98	594	226	80.6	<3.77	<0.38	<0.38	308	30.1	<0.94	<0.94	<0.94	<0.94	<0.38	2.87	<0.38	8,860	10,800
MW2116	Q1	0939_MW2116_220726	26/07/2022	EM2214753	6,900	385	6,700	<0.36	0.89	<0.36	<0.36	<0.36	<0.36	<0.90	877	237	0.63	1,180	407	172	3.28	<0.36	<0.36	584	51.2	<0.90	<0.90	<0.36	<0.90	<0.36	9.45	<0.90	13,600	17,500
MW2120	Q1	0939_GW2120_S_170725	25/07/2017	556151	190	3.2	20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.5	0.99	<0.2	4.4	3	0.7	<0.2	<0.2	<0.2	2.1	0.52	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	210	227.41
MW2120	Q1	0939_GW2120_S_180627	27/06/2018	605360	240	2.3	24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.1	1.2	<0.2	4.9	3.0	0.65	<0.2	<0.2	<0.2	2.5	0.61	<0.2	<0.2	<0.2	<0.2	<0.2	0.90	<0.2	264	282.16
MW2120	Q1	0939_MW2120_200323	23/03/2020	ES2010099	43.0	0.85	6.66	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	1.08	0.28	<0.05	1.52	0.64	0.22	0.57	<0.05	<0.05	0.82	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	1.43	<0.05	49.7	57.1
MW2120	Q1	0939_MW2120_200720	20/07/2020	EM2012633	73.6	1.07	7.70	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	1.33	0.38	<0.05	2.15	0.92	0.32	1.10	<0.05	<0.05	0.85	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	1.60	<0.05	81.3	91.0
MW2120	Q1	0939_MW2120_210111	11/01/2021	EM2100359	36.0	0.85	5.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.78	0.28	<0.02	1.46	0.99	0.24	0.36	<0.02	<0.02	0.62	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.74	<0.02	41.9	48.5
MW2120	Q1	0939_MW2120_210813	13/08/2021	EM2116269	37.7	0.44	2.48	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.19	0.06	<0.04	0.37	0.62	0.07	0.52	<0.04	<0.04	0.15	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.48	<0.04	40.2	43.1
MW2120	Q1	0939_MW2120_220131	31/01/2022	EM2201740	31.9	0.68	2.96	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.2	0.11	<0.02	0.66	0.63	0.13	0.33	<0.02	<0.02	0.19	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.56	<0.02	34.9	38.4
MW2120	Q1	0939_MW2120_220726	26/07/2022	EM2214753	48.2	0.62	3.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.07	<0.02	0.35	1.12	0.09	0.36	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	0.46	<0.05	51.4	54.8
MW2126	Q2	0939_GW2126_170707	7/07/2017	553492	1.4	0.05	0.94	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.04	<0.01	0.2	0.08	0.03	<0.01	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.34	2.96
MW2126	Q2	0939_GW2126_I_170719	19/07/2017	555189	1.1	0.05	1.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.04	<0.01	0.19	0.07	0.03	<0.01	<0.01	<0.01	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.2	2.78
MW2126	Q2	0939_GW2126_I_180626	26/06/2018	605137	1.0	0.05	1.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.04	<0.01	0.20	0.05	0.03	<0.01	<0.01	<0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.1	2.7
MW2126	Q2	0939_MW2126_200323	23/03/2020	ES2010099	0.68	0.05	1.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.04	<0.02	0.21	0.08	0.03	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.71	2.36
MW2126	Q2	0939_MW2126_200720	20/07/2020	EM2012633	1.15	0.07	1.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.22	0.06	<0.02	0.30	0.12	0.04	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.50	3.48
MW2126	Q2	0939_MW2126_210111	11/01/2021	EM2100359	0.41	0.03	0.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.23	1.58
MW2126	Q2	0939_MW2126_210812	12/08/2021	EM2116269	0.62	0.04	0.88	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.13	0.04	<0.02	0.2	0.06	0.03	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.5	2.11
MW2126	Q2	0939_MW2126_220201	1/02/2022	EM2201740	0.52	0.03	0.75	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.03	<0.02	0.16	0.06	0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.27	1.78
MW2126	Q2	0939_MW2126_220725	25/07/2022	EM2214753	0.54	0.04	0.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.03	<0.02	0.14	0.06	0.02	<0.02	<0.02	<0.02	0.10	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.26	1.75
MW2129	Q1	0939_GW2129_170620	20/06/2017	551064	0.73	1.7	34	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	1.1	0.29	<0.01	2.5	0.64	0.55	<0.01	<0.01	<0.01	0.21	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	34.73	41.84
MW2129	Q1	0939_GW2129_S_170725	25/07/2017	556151	0.93	1.2	28	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.9	0.23	<0.01	1.9	0.36	0.46	<0.01	<0.01	<0.01	0.15	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	28.93	34.23
MW2129	Q1	0939_GW2129_S_180625	25/06/2018	604919	11	3.6	63	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	1.9	0.66	0.02	4.9	2.0	0.99	<0.01	<0.01	<0.01	0.40	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	74	88.65
MW2129	Q1	0939_MW2129_200324	24/03/2020	ES2010468	19.5	3.82	78.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	4.70	0.98	<0.05	8.38	2.24	1.30	<0.05	<0.05	<0.05	0.91	0.3	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	98.3	121
MW2129	Q1	0939_MW2129_200720	20/07/2020	EM2012633	12.2	1.41	35.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.64	0.36	<0.02	3.06	0.95	0.58	<0.02	<0.02	<0.02	0.31	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	47.2	55.6
MW2129	Q1	0939_MW2129_210111	11/01/2021	EM2100359	8.29	1.35	32.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.04	0.54	<0.02	4.47	0.71	0.75	<0.02	<0.02	<0.02	0.40	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	40.4	50.6
MW2129	Q1	0939_MW2129_210812	12/08/2021	EM2116269	3.02	0.44	12.7	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.61	0.22	<0.04	1.82	0.2	0.19	<0.04	<0.04	<0.04	0.24	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	15.7	19.4
MW2129	Q1	0939_MW2129_220131	31/01/2022	EM2201740	2.48	0.43	7.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.56	0.4	<0.02	2.79	0.14	0.23	<0.02	<0.02	<0.02	0.52	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	9.51	14.7
MW2129	Q1	0939_MW2129_220725	25/07/2022	EM2214753	2.53	0.67	16.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.09	0.36	<0.02	2.91	0.26	0.32	<0.02	<0.02	<0.02	0.42	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	19.3	25.4
MW2130	Q1	0939_GW2130_S_170726	26/07/2017	556590	660	41	190	<0.01	1.1	0.27	<0.01	0.08	<0.01	<0.01	27	26	0.85	140	21	20	<0.01	<0.01	0.14	31	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	850	1,178.44
MW2130	Q1	0939_GW2130_S_180629	29/06/2018	605762	910	43	250	<2	<2	<2	<2	<2	<2	<2	27	28	<2	160	19	23	<2	<2	<2	30	25	<2	<2	<2	<2	<2	<2	<2	1,160	1,515
MW2130	Q1	0939_MW2130_200325	25/03/2020	ES2010468	538	39.3	132	<0.05	1.08	0.50	<0.05	<0.05	<0.05	<0.12	23.2	26.0	0.86	126	18.9	19.4	1.01	<0.05	0.20	19.4	12.9	<0.12	<0.12	<0.12	<0.12	<0.05	0.66	<0.05	670	959
MW2130	Q1	0939_MW2130_200721	21/07/2020	EM2012633	774	44.1	161	<0.50	1.40	<0.50	<0.50	<0.50	<0.50	<1.25	23.8	34.6	1.00	173	15.4	24.6	<0.50	<0.50	<0.50	21.2	26.2	<1.25	<1.25	<1.25	<1.25	<0.50	0.75	<0.50	935	1,300
MW2130	Q1	0939_MW2130_210112	12/01/2021	EM2100359	420	20.8	90.3	<0.05	0.75	0.35	<0.05	<0.04	<0.04	<0.10	14.2	14.7	0.60	73.4	14.0	12.8	0.86	<0.04	0.15	11.4	8.9	<0.10	<0.10	<0.10	<0.10	<0.04	0.32	<0.04	510	684
MW2130	Q1	0939_MW2130_210802	2/08/2021	EM2115885	334	17.6	74	<0.05	0.68	0.31	<0.05	<0.04	<0.04	<0.09	7.73	11.5	0.58	64	10.9	9.18	0.52	<0.04	0.15	9.37	3.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.26	<0.04	408	544
MW2130	Q1	0939_MW2130_220201	1/02/2022	EM2202065	265	11.7	51.2	<0.38	<0.38	<0.38	<0.38	<0.38	<0.38	<0.94	7.48	7.91	<0.38	37.6	5.01	6.61	<0.38	<0.38	<0.38	7.52	<1.9	<0.94	<0.94	<0.94	<0.94	<0.38	<0.38	<0.38	316	400
MW2130	Q1	0939_MW2130_220726	26/07/2022	EM2214753	227	8.45	49.2	<0.05	0.30	0.19	<0.05	<0.04	<0.04	<0.09	7.45	5.31	0.25	24.9	6.75	4.31	0.94	<0.04	0.12	5.79	2.2	<0.09	<0.09	<0.04	<0.09	<0.04	0.18	<0.09	276	343

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW2131	Q1	0939_GW2131_S_170726	26/07/2017	556590	550	4.5	44	<0.01	0.14	0.13	<0.01	<0.01	<0.01	<0.01	3.8	7.3	0.49	14	3.3	2.9	<0.01	<0.01	0.24	2.8	3	<0.05	<0.05	<0.05	<0.05	<0.05	0.44	<0.05	594	637.04
MW2131	Q1	0939_GW2131_S_180629	29/06/2018	605762	280	4.5	26	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.8	3.8	0.25	14	0.77	2.4	<0.2	<0.2	<0.2	1.6	1.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	306	337.02
MW2131	Q1	0939_MW2131_200325	25/03/2020	ES2010468	99.3	8.60	20.3	<0.05	1.64	<0.05	<0.05	<0.05	<0.05	<0.12	1.78	5.15	0.12	12.9	0.66	3.56	0.06	<0.05	<0.05	1.37	1.4	<0.12	<0.12	<0.12	<0.12	<0.05	1.00	<0.05	120	158
MW2131	Q1	0939_MW2131_200721	21/07/2020	EM2012633	113	11.7	19.8	<0.10	3.70	<0.10	<0.10	<0.10	<0.10	<0.25	1.79	6.22	0.11	16.1	0.56	4.14	<0.10	<0.10	<0.10	1.28	2.0	<0.25	<0.25	<0.25	<0.25	<0.10	0.84	<0.10	133	181
MW2131	Q1	0939_MW2131_210112	12/01/2021	EM2100359	106	5.97	11.7	<0.05	1.66	<0.05	<0.05	<0.04	<0.04	<0.10	0.97	3.08	0.11	6.48	0.42	2.24	<0.04	<0.04	<0.04	0.65	0.8	<0.10	<0.10	<0.10	<0.10	<0.04	0.34	<0.04	118	140
MW2131	Q1	0939_MW2131_210802	2/08/2021	EM2115885	125	8.21	19.1	<0.05	2.29	0.06	<0.05	<0.04	<0.04	<0.1	1.63	4.97	0.1	12.1	1	2.86	0.04	<0.04	<0.04	1.58	0.9	<0.1	<0.1	<0.1	<0.1	<0.04	0.66	<0.04	144	180
MW2131	Q1	0939_MW2131_220201	1/02/2022	EM2202065	118	7.26	16.9	<0.05	1.8	0.06	<0.05	<0.04	<0.04	<0.09	1.68	4.27	0.12	9.63	0.7	2.89	<0.04	<0.04	<0.04	1.3	0.9	<0.09	<0.09	<0.09	<0.09	<0.04	0.5	<0.04	135	166
MW2131	Q1	0939_MW2131_220726	26/07/2022	EM2214753	200	6.59	17.0	<0.05	1.30	0.11	<0.05	<0.03	<0.03	<0.08	1.34	4.08	0.15	9.57	0.62	2.34	0.11	<0.03	0.04	1.03	1.1	<0.08	<0.08	<0.03	<0.08	<0.03	0.72	<0.08	217	246
MW2134	Q1	0939_GW2134_S_170728	28/07/2017	556791	0.05	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW2134	Q1	0939_GW2134_S_180627	27/06/2018	605360	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2134	Q1	0939_MW2134_200320	20/03/2020	ES2010099	0.38	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.44	0.44
MW2134	Q1	0939_MW2134_200721	21/07/2020	EM2012633	0.06	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
MW2134	Q1	0939_MW2134_210112	12/01/2021	EM2100359	0.02	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW2134	Q1	0939_MW2134_210802	2/08/2021	EM2115885	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW2134	Q1	0939_MW2134_220202	2/02/2022	EM2202065	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW2134	Q1	0939_MW2134_220726	26/07/2022	EM2214753	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.06	0.08
MW2135	Q1	0939_GW2135_S_170719	19/07/2017	555189	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1
MW2135	Q1	0939_GW2135_S_180628	28/06/2018	605771	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2135	Q1	0939_MW2135_200325	25/03/2020	ES2010468	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW2135	Q1	0939_MW2135_200721	21/07/2020	EM2012633	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW2135	Q1	0939_MW2135_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2135	Q1	0939_MW2135_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2135	Q1	0939_MW2135_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2135	Q1	0939_MW2135_220726	26/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW2137	Q1	0939_GW2137_170620	20/06/2017	551064	6.5	0.2	4.6	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.45	0.16	<0.01	0.67	0.18	0.08	<0.01	<0.01	<0.01	0.46	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	11.1	13.42
MW2137	Q1	0939_GW2137_S_170803	3/08/2017	557534	9.9	0.27	7.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.61	0.18	<0.01	0.81	0.24	0.1	0.12	<0.01	<0.01	0.48	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.3	20.25
MW2137	Q1	0939_GW2137_S_180625	25/06/2018	604919	13	0.35	12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	1.9	0.28	<0.01	1.6	0.60	0.14	0.03	<0.01	<0.01	1.1	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	25	31.16
MW2137	Q1	0939_MW2137_200323	23/03/2020	ES2010099	15.7	0.54	22.4	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.53	0.45	<0.02	3.00	1.28	0.26	0.04	<0.02	<0.02	1.94	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	38.1	49.4
MW2137	Q1	0939_MW2137_200720	20/07/2020	EM2012633	16.8	0.56	22.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.66	0.49	<0.02	2.74	0.78	0.28	<0.02	<0.02	<0.02	1.79	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	<0.02	38.8	48.3
MW2137	Q1	0939_MW2137_210111	11/01/2021	EM2100359	11.8	0.41	14.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.51	0.27	<0.02	1.71	0.58	0.19	<0.02	<0.02	<0.02	1.20	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	26.0	32.3
MW2137	Q1	0939_MW2137_210812	12/08/2021	EM2116269	9.98	0.36	13.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	1.44	0.2	<0.04	1.34	0.53	0.14	<0.04	<0.04	<0.04	0.86	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	23.4	28.2
MW2137	Q1	0939_MW2137_220131	31/01/2022	EM2201740	8.81	0.35	10.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.47	0.22	<0.02	1.29	0.47	0.12	<0.02	<0.02	<0.02	0.75	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	19.3	24.1
MW2137	Q1	0939_MW2137_220725	25/07/2022	EM2214753	11.0	0.34	11.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.28	0.21	<0.02	1.27	0.51	0.15	<0.02	<0.02	<0.02	0.84	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	22.7	27.3
MW2139	Q1	0939_GW2139_170620	20/06/2017	551064	0.03	<0.01	0.28	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.31	0.38
MW2139	Q1	0939_GW2139_S_170725	25/07/2017	556151	0.04	<0.01	0.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.44	0.53
MW2139	Q1	0939_GW2139_S_180625	25/06/2018	604919	<0.01	<0.01	0.25	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.25	0.32
MW2139	Q1	0939_MW2139_200324	24/03/2020	ES2010468	<0.01	<0.01	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.22	0.25
MW2139	Q1	0939_MW2139_200720	20/07/2020	EM2012633	0.01	<0.01	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.24	0.26
MW2139	Q1	0939_MW2139_210111	11/01/2021	EM2100359	<0.01	<0.01	0.17	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.17	0.17
MW2139	Q1	0939_MW2139_210812	12/08/2021	EM2116269	<0.01	<0.01	0.17	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.17	0.17
MW2139	Q1	0939_MW2139_220131	31/01/2022	EM2201740	<0.01	<0.01	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.13
MW2139	Q1	0939_MW2139_220725	25/07/2022	EM2214753	<0.01	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.16	0.16
MW2145	Q2	0939_GW2145_I_180625	25/06/2018	604919	0.84	0.02	0.66	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.10	0.02	0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.5	1.78
MW2145	Q2	0939_MW2145_200324	24/03/2020	ES2010468	0.93	0.04	0.66	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.03	<0.02	0.13	0.04	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.59	2.01
MW2145	Q2	0939_MW2145_200720	20/07/2020	EM2012633	1.41	0.05	1.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.15	0.03	<0.02	0.20	0.06	0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.45	3.05
MW2145	Q2	0939_MW2145_210111	11/01/2021	EM2100359	0.88	0.03	0.76	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.10	0.04	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.64	1.95
MW2145	Q2	0939_MW2145_210812	12/08/2021	EM2116269	0.9	0.03	0.69	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.03	<0.02	0.13	0.04	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.59	2.04
MW2145	Q2	0939_MW2145_220131	31/01/2022	EM2201740	0.87	0.03	0.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.45	1.83
MW2145	Q2	0939_MW2145_220725	25/07/2022	EM2214753	0.91	0.03	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.12	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.55	1.84
MW2148	Q1	0939_GW2148_S_170725	25/07/2017	556151	520	31	350	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	46	16	0.19	78	36	13	<0.2	<0.2	<0.2	43	11	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	870	1,144.19
MW2148	Q1	0939_GW2148_S_180628	28/06/2018	605771	200	11	160	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	26	7.0	<0.2	36	15	4.6	<0.2	<0.2	<0.2	23	4.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	360	487.3
MW2148	Q1	0939_MW2148S_190228	28/02/2019	EM1903143	566	30.1	294	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	56.7	17.4	<1.00	98.7	32.1	14.9	<1.00	<1.00	<1.00	47.9	11.9	<2.50	<2.50	<2.50	<2.50	<1.00	<1.00	<1.00	860	1,170
MW2148	Q1	0939_MW2148S_190801	1/08/2019	ES1924554	146	7.18	110	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	14.6	5.46	0.04	24.8	10.1	4.22	<0.02	<0.02	<0.02	14.6	1.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	<0.02	256	338
MW2148	Q1	0939_MW2148_200325	25/03/2020	ES2010468	233	11.0	202	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	28.7	6.01	0.03	29.8	19.4	3.83	<0.02	<0.02	<0.02	20.5	2.8	<0.05	<0.05	<0.05	<0.05	<0.02	0.03	<0.02	435	557
MW2148	Q1	0939_MW2148_200721	22/07/2020	EM2012633	166	10.6	184	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	26.4	6.92	<0.05	39.4	13.6	5.28	<0.05	<0.05	<0.05	21.9	3.8	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	350	478
MW2148	Q1	0939_MW2148_210112	12/01/2021	EM2100359	156	11.0	205	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	32.9	6.04	<0.04	33.9	13.0	5.61	<0.04	<0.04	<0.04	23.8	3.5	<0.10	<0.10	<0.10	<0.10	<0.04	0.04	<0.04	361	491
MW2148	Q1	0939_MW2148_210802	2/08/2021	EM2115885	303	25.4	376	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	54	14.4	<0.04	80.1	31.3	10.7	<0.04	<0.04	<0.04	54.7	3.8	<0.09	<0.09	<0.09	<0.09	<0.04	0.04	<0.04	679	953
MW2148	Q1	0939_MW2148_220131	31/01/2022	EM2201740	640	18	205	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	27.1	6.08	<0.39	30.7	24.6	6.43	<0.39	<0.39	<0.39	23.4	<2	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	<0.39	845	981
MW2148	Q1	0939_MW2148_220725	25/07/2022	EM2214753	588	31.8	368	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.88	49.3	13.2	<0.35	67.3	33.2	12.1	<0.35	<0.35	<0.35	46.2	5.7	<0.88	<0.88	<0.35	<0.88	<0.35	<0.35	<0.88	956	1,210

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																																			
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																														0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																				
MW2149	Q1	0939_GW2149_S_170725	25/07/2017	556151	180	14	140	<0.2	0.85	<0.2	<0.2	<0.2	<0.2	<0.2	19	10	<0.2	46	9.4	6.4	<0.2	<0.2	<0.2	19	6.8	<0.2	<0.2	<0.2	<0.2	<0.2	0.47	<0.2	320	451.92
MW2149	Q1	0939_GW2149_S_180628	28/06/2018	605771	120	8.7	84	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	7.4	<0.2	32	6.2	3.7	<0.2	<0.2	<0.2	14	4.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	204	294.2
MW2149	Q1	0939_MW2149_200323	23/03/2020	ES2010099	64.0	6.42	69.0	<0.05	0.42	<0.05	<0.05	<0.05	<0.05	<0.12	14.6	6.14	<0.05	28.8	5.15	3.40	<0.05	<0.05	<0.05	14.1	2.5	<0.12	<0.12	<0.12	<0.12	<0.05	0.20	<0.05	133	215
MW2149	Q1	0939_MW2149_200721	21/07/2020	EM2012633	160	11.6	107	<0.05	0.77	<0.05	<0.05	<0.05	<0.05	<0.12	21.1	10.1	<0.05	44.8	8.90	5.62	<0.05	<0.05	<0.05	17.4	5.2	<0.12	<0.12	<0.12	<0.12	<0.05	0.39	<0.05	267	393
MW2149	Q1	0939_MW2149_210114	14/01/2021	EM2100517	88.3	2.30	12.7	<0.05	0.26	<0.05	<0.05	<0.02	<0.02	<0.05	1.76	2.83	<0.02	3.89	1.37	2.73	<0.02	<0.02	<0.02	1.39	3.5	<0.05	<0.05	<0.05	<0.05	<0.02	0.08	<0.02	101	121
MW2149	Q1	0939_MW2149_210812	12/08/2021	EM2116269	137	8.23	68.4	<0.05	0.59	<0.05	<0.05	<0.04	<0.04	<0.09	13	6.02	<0.04	26.7	6.3	3.72	<0.04	<0.04	<0.04	10.4	2.1	<0.09	<0.09	<0.09	<0.09	<0.04	0.14	<0.04	205	283
MW2149	Q1	0939_MW2149_220201	1/02/2022	EM2202065	57.7	5.73	66.5	<0.05	0.26	<0.05	<0.05	<0.04	<0.04	<0.1	13.4	4.42	<0.04	20.7	5.18	3.15	<0.04	<0.04	<0.04	9.77	1.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.09	<0.04	124	188
MW2149	Q1	0939_MW2149_220726	26/07/2022	EM2214753	108	8.58	108	<0.05	0.36	<0.05	<0.05	<0.03	<0.03	<0.08	15.9	4.88	0.04	21.5	8.30	3.95	<0.03	<0.03	<0.03	9.43	1.6	<0.08	<0.08	<0.03	<0.08	<0.03	0.14	<0.08	216	291
MW2150	Q1	0939_GW2150_S_170724	24/07/2017	556166	17	0.17	3.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	0.1	<0.01	0.39	0.16	0.05	<0.01	<0.01	<0.01	0.17	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	20.7	22.07
MW2150	Q1	0939_GW2150_S_180626	26/06/2018	605137	21	0.14	4.0	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.16	0.13	<0.01	0.38	0.13	0.05	<0.01	<0.01	<0.01	0.21	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	25	26.26
MW2150	Q1	0939_MW2150_200324	24/03/2020	ES2010468	14.8	0.16	5.77	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	0.44	0.10	<0.05	0.54	0.26	0.06	<0.05	<0.05	<0.05	0.26	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	20.6	22.4
MW2150	Q1	0939_MW2150_200721	21/07/2020	EM2012633	16.6	0.18	5.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.50	0.13	<0.02	0.58	0.42	0.07	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	21.9	24.0
MW2150	Q1	0939_MW2150_210205	5/02/2021	EM2101800	9.88	0.15	4.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.33	0.1	<0.02	0.49	0.39	0.06	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	14	15.8
MW2150	Q1	0939_MW2150_210812	12/08/2021	EM2116269	9.96	0.12	4.29	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.34	0.09	<0.04	0.54	0.22	0.05	<0.04	<0.04	<0.04	0.19	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	14.2	15.8
MW2150	Q1	0939_MW2150_220201	1/02/2022	EM2202065	9.6	0.13	3.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.29	0.1	<0.02	0.48	0.17	0.06	<0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	13.4	14.9
MW2150	Q1	0939_MW2150_220725	25/07/2022	EM2214753	10.7	0.12	4.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	0.08	<0.02	0.39	0.23	0.05	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	14.9	16.3
MW2157	Q2	0939_GW2157_170704	4/07/2017	552803	14	0.3	5.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.52	0.16	<0.01	1.1	0.37	0.15	<0.01	<0.01	<0.01	0.44	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	19.3	22.45
MW2157	Q2	0939_GW2157_I_170803	3/08/2017	557534	13	0.29	4.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.46	0.16	<0.01	0.84	0.31	0.12	<0.01	<0.01	<0.01	0.43	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.7	20.42
MW2157	Q2	0939_GW2157_I_180629	29/06/2018	605762	18	0.38	6.5	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.71	0.29	<0.01	1.8	0.42	0.18	<0.01	<0.01	<0.01	1.2	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	24.5	29.65
MW2157	Q2	0939_MW2157_200325	24/03/2020	ES2010468	15.5	0.36	5.58	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	0.66	0.22	<0.02	1.15	0.51	0.15	<0.02	<0.02	<0.02	0.61	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	21.1	25.0
MW2157	Q2	0939_MW2157_200721	21/07/2020	EM2012633	12.1	0.34	4.60	<0.05	0.09	<0.05	<0.05	<0.02	<0.02	<0.05	0.69	0.18	<0.02	0.98	0.50	0.13	<0.02	<0.02	<0.02	0.54	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	16.7	20.2
MW2157	Q2	0939_MW2157_210112	12/01/2021	EM2100359	8.56	0.27	3.75	<0.05	0.06	<0.05	<0.05	<0.02	<0.02	<0.05	0.72	0.16	<0.02	0.84	0.38	0.14	<0.02	<0.02	<0.02	0.53	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	12.3	15.6
MW2157	Q2	0939_MW2157_210802	2/08/2021	EM2115885	10.2	0.38	4.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.72	0.22	<0.02	1.21	0.54	0.16	<0.02	<0.02	<0.02	0.58	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	15	18.9
MW2157	Q2	0939_MW2157_220201	1/02/2022	EM2202065	12.1	0.34	4.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.65	0.21	<0.02	1.09	0.45	0.16	<0.02	<0.02	<0.02	0.55	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	16.5	20
MW2157	Q2	0939_MW2157_220726	26/07/2022	EM2214753	11.4	0.35	4.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.61	0.20	<0.02	1.00	0.42	0.14	<0.02	<0.02	<0.02	0.59	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	15.8	19.1
MW2158	Q2	0939_GW2158_170707	7/07/2017	553492	850	38	340	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	79	23	<0.01	120	33	16	<0.01	<0.01	<0.01	61	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1,190	1543
MW2158	Q2	0939_GW2158_I_170725	25/07/2017	556151	1,100	45	410	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	54	23	0.28	120	45	19	<0.2	<0.2	<0.2	52	18	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1,510	1,886.28
MW2158	Q2	0939_GW2158_I_180628	28/06/2018	605771	1,200	42	340	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	69	23	<0.2	120	53	15	<0.2	<0.2	<0.2	53	15	<0.2	<0.2	<0.2	<0.2	<0.2	0.27	<0.2	1,540	1,930.27
MW2158	Q2	0939_GW2158_I_20192802	28/02/2019	EM1903143	305	12.9	108	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	22.8	7.40	<1.00	41.5	12.8	6.30	<1.00	<1.00	<1.00	19.4	7.4	<2.50	<2.50	<2.50	<2.50	<1.00	<1.00	<1.00	413	544
MW2158	Q2	0939_GW2158_I_20190801	1/08/2019	ES1924554	644	25.7	254	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	36.3	14.3	0.14	77.6	25.9	11.6	<0.02	<0.02	<0.02	35.7	6.2	<0.05	<0.05	<0.05	<0.05	<0.02	0.23	<0.02	898	1,130
MW2158	Q2	0939_GW2158_I_191101	1/11/2019	ES1936408	1,030	39.6	377	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	85.8	19.8	0.18	114	60.7	14.4	<0.10	<0.10	<0.10	56.6	14.4	<0.25	<0.25	<0.25	<0.25	<0.10	0.23	<0.10	1,410	1,810
MW2158	Q2	0930_GW2158_I_200205	5/02/2020	ES2003907	2,040	53.4	578	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	81.8	29.1	<0.50	139	55.0	19.8	<0.50	<0.50	<0.50	79.2	14.2	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	<0.50	2,620	3,090
MW2158	Q2	0939_MW2158_200325	25/03/2020	ES2010468	2,030	69.4	616	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	99.8	36.0	0.23	173	65.4	30.1	0.26	<0.02	0.03	90.6	20.0	<0.05	<0.05	<0.05	<0.05	<0.02	0.34	<0.02	2,650	3,230
MW2158	Q2	0939_MW2158_200721	21/07/2020	EM2012633	671	26.2	253	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	41.7	14.7	<0.50	73.0	24.2	10.9	<0.50	<0.50	<0.50	34.7	8.6	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	<0.50	924	1,160
MW2158	Q2	0939_MW2158_210112	12/01/2021	EM2100359	1,370	45.6	455	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	67.6	22.7	0.22	115	49.6	19.3	0.12	<0.04	<0.04	60.6	11.5	<0.10	<0.10	<0.10	<0.10	<0.04	0.23	<0.04	1,820	2,220
MW2158	Q2	0939_MW2158_210802	2/08/2021	EM2115885	1460	58.2	559	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	74	28.8	0.18	154	60.2	22	<0.05	<0.05	<0.05	77.7	11.3	<0.12	<0.12	<0.12	<0.12	<0.05	0.28	<0.05	2,020	2500
MW2158	Q2	0939_MW2158_220131	31/01/2022	EM2201740	1490	56.2	478	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	97.6	28.1	<0.39	138	63	26.8	<0.39	<0.39	<0.39	78.9	6.4	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	<0.39	1970	2460
MW2158	Q2	0939_MW2158_220725	25/07/2022	EM2214753	1,580	71.6	634	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.89	112	38.8	<0.36	193	66.0	33.8	<0.36	<0.36	<0.36	99.1	13.5	<0.89	<0.89	<0.89	<0.89	<0.36	<0.36	<0.89	2,210	2,840
MW2159	Q1	0939_GW2159_S_180320	20/03/2018	590583	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW2159	Q1	0939_GW2159_S_180629	29/06/2018	605762	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2159	Q1	0939_MW2159_200324	24/03/2020	ES2010468	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2159	Q1	0939_MW2159_200723	23/07/2020	EM2012841	0.38	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.42	0.42
MW2159	Q1	0939_MW2159_210114	14/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2159	Q1	0939_MW2159_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2159	Q1	0939_MW2159_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2159	Q1	0939_MW2159_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW2162	Q2	0939_GW2162_I_180626	26/06/2018	605137	0.85	0.03	1.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.04	<0.01	0.14	0.03	0.02	<0.01	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.15	2.61
MW2162	Q2	0939_MW2162_200323	23/03/2020	ES2010099	0.84	0.06	1.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.04	<0.02	0.22	0.07	0.03	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.18	2.86
MW2162	Q2	0939_MW2162_200720	20/07/2020	EM2012633	1.20	0.07	1.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.05	<0.02	0.27	0.09	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.83	3.74
MW2162	Q2	0939_MW2162_210111	11/01/2021	EM2100359	0.55	0.03	1.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.09	0.04	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.58	1.91
MW2162	Q2	0939_MW2162_210812	12/08/2021	EM2116269	0.31	0.02	0.48	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.07	0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.79	1.05
MW2162	Q2	0939_MW2162_220201	1/02/2022	EM2201740	0.14	<0.01	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.44	0.56
MW2162	Q2	0939_MW2162_220725	25/07/2022	EM2214753	0.16	<0.01	0.29	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.45	0.56
MW2166	Q1	0939_GW2166_S_180320	20/03/2018	590583	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2166	Q1	0939_GW2166_S_180627	27/06/2018	605360	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2166	Q1	0939_MW2166_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	0.20
MW2166	Q1	0939_MW2166_200720	20/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2166	Q1	0939_MW2166_210111	11/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2166	Q1	0939_MW2166_210812	12/08/2021	EM2116269	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2166	Q1	0939_MW2166_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2166	Q1	0939_MW2166_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW2169	Q1	0939_GW2169_S_180320	20/03/2018	590583	0.08	<0.01	0.32	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	0.03	0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.4	0.52
MW2169	Q1	0939_GW2169_S_180625	25/06/2018	604919	0.06	<0.01	0.48	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.54	0.65
MW2169	Q1	0939_MW2169_200324	24/03/2020	ES2010468	0.05	<0.01	0.49	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.54	0.72
MW2169	Q1	0939_MW2169_200720	20/07/2020	EM2012633	0.10	<0.01	0.57	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.67	0.89
MW2169	Q1	0939_MW2169_210111	11/01/2021	EM2100359	0.07	<0.01	0.45	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.52	0.64
MW2169	Q1	0939_MW2169_210812	12/08/2021	EM2116269	0.06	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.49	0.63
MW2169	Q1	0939_MW2169_220131	31/01/2022	EM2201740	0.05	<0.01	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.39	0.52
MW2169	Q1	0939_MW2169_220725	25/07/2022	EM2214753	0.07	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.50	0.63
MW2172	Q1	0939_GW2172_S_180219	19/02/2018	585891	<0.01	<0.01	0.19	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.19	0.26
MW2172	Q1	0939_GW2172_S_180625	25/06/2018	604919	<0.01	<0.01	0.16	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.22
MW2172	Q1	0939_MW2172_200323	23/03/2020	ES2010099	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.12	0.14
MW2172	Q1	0939_MW2172_200720	20/07/2020	EM2012633	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.11	0.13
MW2172	Q1	0939_MW2172_210111	11/01/2021	EM2100359	0.03	<0.01	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.13
MW2172	Q1	0939_MW2172_210812	12/08/2021	EM2116269	<0.01	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
MW2172	Q1	0939_MW2172_220131	31/01/2022	EM2201740	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
MW2172	Q1	0939_MW2172_220725	25/07/2022	EM2214753	<0.01	<0.01	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.10	0.10
MW2173	Q2	0939_GW2173_I_180420	20/04/2018	595269	0.01	<0.01	0.04	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW2173	Q2	0939_GW2173_I_180625	25/06/2018	604919	<0.01	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2173	Q2	0939_MW2173_200323	23/03/2020	ES2010099	0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	0.06	<0.02	<0.02	<0.02	0.04	0.10
MW2173	Q2	0939_MW2173_200720	20/07/2020	EM2012633	0.02	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
MW2173	Q2	0939_MW2173_210111	11/01/2021	EM2100359	0.04	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
MW2173	Q2	0939_MW2173_210812	12/08/2021	EM2116269	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2173	Q2	0939_MW2173_220131	31/01/2022	EM2201740	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2173	Q2	0939_MW2173_220725	25/07/2022	EM2214753	0.02	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.04	0.04
MW2175	Q1	0939_GW2175_S_180219	19/02/2018	585891	0.11	<0.01	0.30	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.41	0.56
MW2175	Q1	0939_GW2175_S_180626	26/06/2018	605137	0.11	<0.01	0.40	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.51	0.67
MW2175	Q1	0939_MW2175_200323	23/03/2020	ES2010099	0.18	<0.01	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.46	0.55
MW2175	Q1	0939_MW2175_200720	20/07/2020	EM2012633	0.27	<0.01	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.62	0.83
MW2175	Q1	0939_MW2175_210111	11/01/2021	EM2100359	0.07	<0.01	0.20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.27	0.37
MW2175	Q1	0939_MW2175_210812	12/08/2021	EM2116269	0.12	<0.01	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.39	0.56
MW2175	Q1	0939_MW2175_220131	31/01/2022	EM2201740	0.08	<0.01	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.32	0.46
MW2175	Q1	0939_MW2175_220725	25/07/2022	EM2214753	0.07	<0.01	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.31	0.43
MW2176	Q2	0939_GW2176_I_180626	26/06/2018	605137	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2176	Q2	0939_MW2176_200323	23/03/2020	ES2010099	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2176	Q2	0939_MW2176_200720	20/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2176	Q2	0939_MW2176_210111	11/01/2021	EM2100359	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
MW2176	Q2	0939_MW2176_210812	12/08/2021	EM2116269	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2176	Q2	0939_MW2176_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2176	Q2	0939_MW2176_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW2177	Q1	0939_GW2177_S_180320	20/03/2018	590583	5.6	0.21	4.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.40	0.11	<0.01	0.83	0.37	0.08	<0.01	<0.01	<0.01	0.16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9.9	12.11
MW2177	Q1	0939_GW2177_S_180626	26/06/2018	605137	5.3	0.25	4.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.33	0.12	<0.01	0.92	0.42	0.08	<0.01	<0.01	<0.01	0.18	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9.5	11.85
MW2177	Q1	0939_MW2177_200323	23/03/2020	ES2010099	5.92	0.24	5.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.36	0.12	<0.02	0.95	0.49	0.10	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	11.3	13.8
MW2177	Q1	0939_MW2177_200720	20/07/2020	EM2012633	5.56	0.22	4.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.43	0.13	<0.02	0.98	0.50	0.09	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	10.4	12.9
MW2177	Q1	0939_MW2177_210111	11/01/2021	EM2100359	4.20	0.15	3.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	0.08	<0.02	0.55	0.28	0.06	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	7.26	8.68
MW2177	Q1	0939_MW2177_210812	12/08/2021	EM2116269	4.13	0.15	3.51	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.21	0.07	<0.04	0.61	0.29	0.05	<0.04	<0.04	<0.04	0.14	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	7.64	9.16
MW2177	Q1	0939_MW2177_220131	31/01/2022	EM2201740	2.93	0.15	3.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.08	<0.02	0.6	0.32	0.07	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.99	7.59
MW2177	Q1	0939_MW2177_220725	25/07/2022	EM2214753	4.88	0.16	2.93	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.19	0.07	<0.02	0.56	0.29	0.06	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	7.81	9.25
MW2180	Q1	0939_GW2180_S_180306	6/03/2018	588459	81	11	99	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.7	3.0	0.18	18	8.8	1.9	<0.01	<0.01	<0.01	1.4	0.88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	180	228.86
MW2180	Q1	0939_GW2180_S_180626	26/06/2018	605137	94	12	120	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	4.1	2.5	<0.01	17	12	1.7	<0.01	<0.01	<0.01	1.4	0.85	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	214	265.55
MW2180	Q1	0939_MW2180_200323	23/03/2020	ES2010099	96.6	11.9	134	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	4.10	1.92	0.18	14.3	13.2	1.60	<0.05	<0.05	<0.05	1.22	0.4	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	<0.05	231	280
MW2180	Q1	0939_MW2180_200720	20/07/2020	EM2012633	109	13.5	125	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	3.60	2.76	0.09	17.8	13.4	1.99	<0.05	<0.05	<0.05	0.85	0.8	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	<0.05	234	289
MW2180	Q1	0939_MW2180_210111	11/01/2021	EM2100359	62.8	8.01	74.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.95	1.22	0.10	7.97	7.43	1.09	<0.02	<0.02	<0.02	0.70	1.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	<0.02	138	168
MW2180	Q1	0939_MW2180_210812	12/08/2021	EM2116269	59.8	7.05	60.3	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	2.07	0.98	0.04	6.46	7.86	0.84	<0.04	<0.04	<0.04	0.49	0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	120	146
MW2180	Q1	0939_MW2180_220131	31/01/2022	EM2201740	38.5	4.64	39.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.01	0.97	0.04	4	4.78	0.64	<0.02	<0.02	<0.02	0.49	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	<0.02	78.3	95.3
MW2180	Q1	0939_MW2180_220725	25/07/2022	EM2214753	48.7	7.77	57.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.52	0.89	0.08	6.72	6.21	0.81	<0.02	<0.02	<0.02	0.57	0.3	<0.05	<0.05	<0.02	<0.05	<0.02	0.04	<0.05	106	132

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW2182	Q1	0939_GW2182_S_180306	6/03/2018	588459	0.06	<0.01	0.04	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
MW2182	Q1	0939_GW2182_S_180626	26/06/2018	605137	0.05	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.1
MW2182	Q1	0939_MW2182_200323	23/03/2020	ES2010099	0.03	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW2182	Q1	0939_MW2182_200720	20/07/2020	EM2012633	0.06	<0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.20	0.23
MW2182	Q1	0939_MW2182_210111	11/01/2021	EM2100359	0.03	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.09	0.09
MW2182	Q1	0939_MW2182_210812	12/08/2021	EM2116269	0.05	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.09	0.09
MW2182	Q1	0939_MW2182_220131	31/01/2022	EM2201740	0.05	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
MW2182	Q1	0939_MW2182_220725	25/07/2022	EM2214753	0.03	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.06	0.06
MW2183	Q2	0939_GW2183_I_180306	6/03/2018	588459	1.7	0.04	0.68	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.03	<0.01	0.12	0.05	0.02	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.38	2.8
MW2183	Q2	0939_GW2183_I_180626	26/06/2018	605137	1.3	0.03	0.70	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.02	<0.01	0.09	0.03	0.01	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2	2.3
MW2183	Q2	0939_MW2183_200323	23/03/2020	ES2010099	2.50	0.07	1.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.04	<0.02	0.19	0.10	0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	3.84	4.54
MW2183	Q2	0939_MW2183_200720	20/07/2020	EM2012633	2.98	0.08	1.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.26	0.04	<0.02	0.25	0.14	0.03	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	4.63	5.60
MW2183	Q2	0939_MW2183_210111	11/01/2021	EM2100359	2.14	0.07	1.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	0.03	<0.02	0.21	0.09	0.03	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	3.55	4.25
MW2183	Q2	0939_MW2183_210812	12/08/2021	EM2116269	3.2	0.07	1.93	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.23	0.04	<0.04	0.27	0.14	<0.04	<0.04	<0.04	<0.04	0.16	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	5.13	6.04
MW2183	Q2	0939_MW2183_220131	31/01/2022	EM2201740	3.35	0.09	1.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.24	0.05	<0.02	0.28	0.13	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	4.93	5.94
MW2183	Q2	0939_MW2183_220725	25/07/2022	EM2214753	3.99	0.11	1.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.25	0.06	<0.02	0.31	0.15	0.05	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	5.98	7.12
MW2184	Q1	0939_GW2184_S_180306	6/03/2018	588459	0.47	0.01	0.41	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.03	0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.88	1.01
MW2184	Q1	0939_GW2184_S_180625	25/06/2018	604919	0.42	<0.01	0.35	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.77	0.85
MW2184	Q1	0939_MW2184_200323	23/03/2020	ES2010099	0.42	<0.01	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.77	0.90
MW2184	Q1	0939_MW2184_200720	20/07/2020	EM2012633	0.70	<0.01	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.91	0.94
MW2184	Q1	0939_MW2184_210111	11/01/2021	EM2100359	0.19	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.28	0.28
MW2184	Q1	0939_MW2184_210812	12/08/2021	EM2116269	0.8	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.82	0.82
MW2184	Q1	0939_MW2184_220131	31/01/2022	EM2201740	0.38	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.4	0.4
MW2184	Q1	0939_MW2184_220725	25/07/2022	EM2214753	0.03	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.04	0.04
MW2185	Q2	0939_GW2185_I_180219	19/02/2018	585891	2.1	0.05	1.0	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.03	<0.01	0.10	0.07	0.02	<0.01	<0.01	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.1	3.56
MW2185	Q2	0939_GW2185_I_180625	25/06/2018	604919	2.6	0.05	1.4	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.03	<0.01	0.10	0.05	0.02	<0.01	<0.01	<0.01	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4	4.44
MW2185	Q2	0939_GW2185_I_180704	4/07/2018	606589	2.2	0.04	0.87	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	0.03	<0.01	0.12	0.06	0.02	<0.01	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.07	3.56
MW2185	Q2	0939_MW2185_200323	23/03/2020	ES2010099	3.65	0.08	2.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.23	0.04	<0.02	0.20	0.14	0.04	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.73	6.64
MW2185	Q2	0939_MW2185_200720	20/07/2020	EM2012633	5.39	0.11	2.66	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.37	0.05	<0.02	0.29	0.20	0.05	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	8.05	9.36
MW2185	Q2	0939_MW2185_210111	11/01/2021	EM2100359	5.24	0.14	2.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.26	0.07	<0.02	0.37	0.20	0.06	<0.02	<0.02	<0.02	0.28	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	8.23	9.71
MW2185	Q2	0939_MW2185_210812	12/08/2021	EM2116269	5.62	0.13	3.06	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.37	0.07	<0.04	0.42	0.2	0.06	<0.04	<0.04	<0.04	0.32	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	8.68	10.2
MW2185	Q2	0939_MW2185_220131	31/01/2022	EM2201740	5.67	0.18	3.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.47	0.1	<0.02	0.46	0.27	0.08	<0.02	<0.02	<0.02	0.39	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	9.03	11
MW2185	Q2	0939_MW2185_220725	25/07/2022	EM2214753	8.15	0.22	3.99	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.50	0.10	<0.02	0.52	0.30	0.09	<0.02	<0.02	<0.02	0.37	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	12.1	14.2
MW2188	Q1	0939_GW2188_S_180201	1/02/2018	583482	23	4.2	110	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	5.2	<0.2	24	2.1	2.5	<0.2	<0.2	<0.2	11	2.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	133	198.6
MW2188	Q1	0939_GW2188_S_180628	28/06/2018	605771	110	8.5	74	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	12	6.2	0.02	30	6.7	2.6	<0.01	<0.01	<0.01	11	2.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	184	263.42
MW2188	Q1	0939_MW2188_200323	23/03/2020	ES2010099	116	3.23	46.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	6.72	1.74	<0.05	9.06	4.37	1.32	<0.05	<0.05	<0.05	5.34	0.7	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	162	195
MW2188	Q1	0939_MW2188_200721	21/07/2020	EM2012633	96.6	5.56	134	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	22.4	5.70	<0.05	27.8	6.22	3.20	<0.05	<0.05	<0.05	11.8	2.4	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	231	316
MW2188	Q1	0939_MW2188_210114	14/01/2021	EM2100517	49.8	4.55	62.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	11.3	4.99	<0.02	21.6	3.46	2.34	<0.02	<0.02	<0.02	10.4	1.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	112	173
MW2188	Q1	0939_MW2188_210813	13/08/2021	EM2116269	130	4.62	108	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	11	4.15	<0.04	20.3	7.67	2.23	<0.04	<0.04	<0.04	9.36	1.3	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	238	299
MW2188	Q1	0939_MW2188_220201	1/02/2022	EM2202065	130	4.66	90.9	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	15.8	3.7	<0.04	17.4	8.05	2.28	<0.04	<0.04	<0.04	9.12	0.8	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	221	283
MW2188	Q1	0939_MW2188_220725	25/07/2022	EM2214753	139	5.17	94.0	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	13.3	3.78	<0.03	17.0	8.21	2.36	<0.03	<0.03	<0.03	9.25	1.0	<0.08	<0.08	<0.03	<0.08	<0.03	<0.03	<0.08	233	293
MW2189	Q2	0939_GW2189_I_180628	28/06/2018	605771	360	11	140	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	21	5.3	<0.2	34	13	4.1	<0.2	<0.2	<0.2	17	4.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	500	609.5
MW2189	Q2	0939_MW2189_200721	21/07/2020	EM2012633	35.7	1.15	15.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	2.24	0.76	<0.05	3.43	1.22	0.48	<0.05	<0.05	<0.05	1.78	0.4	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	51.3	62.8
MW2189	Q2	0939_MW2189_210114	14/01/2021	EM2100517	87.7	2.91	11.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.46	1.88	<0.02	3.86	1.10	1.39	0.89	<0.02	<0.02	1.17	1.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	98.8	114
MW2189	Q2	0939_MW2189_210813	13/08/2021	EM2116269	250	7.8	98.3	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	12	3.83	<0.04	22.1	12.2	3.09	<0.04	<0.04	<0.04	11.3	1.2	<0.1	<0.1	<0.1	<0.1	<0.04	0.04	<0.04	348	422
MW2189	Q2	0939_MW2189_220201	1/02/2022	EM2202065	314	8.22	109	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.01	14.7	4.97	<0.4	23.2	10.3	3.5	<0.4	<0.4	<0.4	14	<2	<1.01	<1.01	<1.01	<1.01	<0.4	<0.4	<0.4	423	502
MW2189	Q2	0939_MW2189_220725	25/07/2022	EM2214753	290	8.33	118	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	18.4	5.34	0.05	23.1	17.0	3.98	<0.04	<0.04	<0.04	12.9	1.7	<0.09	<0.09	<0.04	<0.09	<0.04	<0.04	<0.09	408	499
MW2193	Q1	0939_GW2193_S_180201	1/02/2018	583482	36	1.5	24	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.3	1.3	0.02	5.8	1.5	0.79	<0.01	<0.01	<0.01	2.4	0.70	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	60	77.4
MW2193	Q1	0939_GW2193_S_180628	28/06/2018	605771	71	1.7	24	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.1	1.1	0.02	5.8	2.8	0.73	0.08	<0.01	<0.01	2.6	0.65	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	95	113.72
MW2193	Q1	0939_MW2193_200324	24/03/2020	ES2010468	47.7	1.72	25.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	3.66	1.08	<0.05	5.44	1.88	0.80	<0.05	<0.05	<0.05	2.95	0.3	<0.12	<0.12	<0.12	<0.12	<0.05	0.06	<0.05	73.5	91.4
MW2193	Q1	0939_MW2193_200721	21/07/2020	EM2012633	66.0	2.38	38.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	5.62	1.76	<0.05	9.24	3.06	1.21	<0.05	<0.05	<0.05	4.32	0.9	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	<0.05	105	133
MW2193	Q1	0939_MW2193_210114	14/01/2021	EM2100517	40.2	1.39	45.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	9.58	1.08	<0.02	21.6	2.95	0.66	0.12	<0.02	<0.02	2.82	0.4	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	<0.02	85.7	126
MW2193	Q1	0939_MW2193_210812	12/08/2021	EM2116269	54.1	1.52	31.8	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	5.28	1.6	<0.04	8.79	2.02	0.8	<0.04	<0.04	<0.04	4.32	0.5	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	85.9	111
MW2193	Q1	0939_MW2193_220131	31/01/2022	EM2201740	44.8	1.49	25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.58	1.77	<0.02	6.88	1.73	1	<0.04	<0.02	<0.02	3.85	0.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	69.8	92
MW2193	Q1	0939_MW2193_220725	25/07/2022	EM2214753	53.9	1.54	34.0	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.09	5.32	1.48	<0.03	7.62	2.41	0.86	0.09	<0.03	<0.03	4.25	0.5	<0.09	<0.09	<0.03	<0.09	<0.03	0.04	<0.09	87.9	112

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																																
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																	
MW2194	Q1	0939_GW2194_S_180201	1/02/2018	583482	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW2194	Q1	0939_GW2194_S_180628	28/06/2018	605771	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW2194	Q1	0939_MW2194_200324	24/03/2020	ES2010468	2.98	0.11	2.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.07	<0.02	0.33	0.14	0.05	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.07	6.23
MW2194	Q1	0939_MW2194_200721	21/07/2020	EM2012633	2.85	0.10	1.92	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.21	0.06	<0.02	0.31	0.15	0.05	<0.02	<0.02	<0.02	0.16	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	4.77	5.81
MW2194	Q1	0939_MW2194_210114	14/01/2021	EM2100517	1.31	0.05	1.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.02	<0.02	0.17	0.07	0.03	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.44	2.96
MW2194	Q1	0939_MW2194_210812	12/08/2021	EM2116269	1.55	0.05	0.75	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.15	0.06	0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.3	2.76
MW2194	Q1	0939_MW2194_220201	1/02/2022	EM2202065	1.16	0.04	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.11	0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.8	2.14
MW2194	Q1	0939_MW2194_220725	25/07/2022	EM2214753	0.91	0.03	0.47	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.38	1.64
MW2197	Q1	0939_GW2197_S_180219	19/02/2018	585891	390	13	180	<0.2	<0.2	<0.2	<0.2	<0.2	0.05	<0.2	22	8.3	<0.2	41	17	5.6	<0.2	<0.2	<0.2	19	5.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	570	701.05
MW2197	Q1	0939_GW2197_S_180628	28/06/2018	605771	100	5.1	100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	13	4.7	<0.2	21	4.6	2.1	<0.2	<0.2	<0.2	9.5	2.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	200	262.1
MW2197	Q1	0939_MW2197_200324	24/03/2020	ES2010468	284	11.3	179	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	<0.12	28.4	7.14	0.10	35.5	19.9	5.08	<0.05	<0.05	<0.05	19.0	3.1	<0.12	<0.12	<0.12	<0.12	<0.05	0.12	<0.05	463	593
MW2197	Q1	0939_MW2197_200721	21/07/2020	EM2012633	420	14.7	210	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.25	33.6	9.77	<0.10	51.7	24.5	6.81	<0.10	<0.10	<0.10	24.2	5.6	<0.25	<0.25	<0.25	<0.25	<0.10	0.19	<0.10	630	801
MW2197	Q1	0939_MW2197_210114	14/01/2021	EM2100517	280	8.11	117	<0.05	0.26	<0.05	<0.05	<0.04	<0.04	<0.11	17.1	5.24	0.07	25.7	13.9	4.05	<0.04	<0.04	<0.04	14.0	3.0	<0.11	<0.11	<0.11	<0.11	<0.04	0.10	<0.04	397	488
MW2197	Q1	0939_MW2197_210812	12/08/2021	EM2116269	413	10.9	149	<0.05	0.12	<0.05	<0.05	<0.04	<0.04	<0.09	24.5	6.1	0.06	31.6	20.7	4.37	0.05	<0.04	<0.04	15.8	2.3	<0.09	<0.09	<0.09	<0.09	<0.04	0.08	<0.04	562	678
MW2197	Q1	0939_MW2197_220201	1/02/2022	EM2202065	327	9.66	140	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.97	18.1	5.83	<0.39	26.9	14	4.49	<0.39	<0.39	<0.39	15.1	<1.9	<0.97	<0.97	<0.97	<0.97	<0.39	<0.39	<0.39	467	561
MW2197	Q1	0939_MW2197_220725	25/07/2022	EM2214753	387	11.6	176	<0.05	0.13	<0.05	<0.05	<0.04	<0.04	<0.09	27.7	6.88	0.10	32.7	28.9	5.34	0.17	<0.04	<0.04	16.8	2.3	<0.09	<0.09	<0.04	<0.09	<0.04	0.18	<0.09	563	696
MW2200	Q2	0939_GW2200_I_180627	27/06/2018	605360	190	17	290	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	46	11	<0.2	60	20	7.2	<0.2	<0.2	<0.2	33	5.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	480	679.7
MW2200	Q2	0939_GW2200_I_190219	19/02/2019	642294	48	5.6	100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	13	3.6	<0.2	22	6.0	2.6	<0.2	<0.2	<0.2	11	2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	148	217.1
MW2200	Q2	0939_MW2200_200323	23/03/2020	ES2010099	75.2	8.23	166	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	27.1	5.34	<0.05	30.6	12.3	4.07	<0.05	<0.05	<0.05	18.1	2.1	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	241	349
MW2200	Q2	0939_MW2200_200720	20/07/2020	EM2012633	118	11.6	225	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	44.4	8.44	<0.05	48.7	11.8	6.06	<0.05	<0.05	<0.05	23.2	3.8	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	343	501
MW2200	Q2	0939_MW2200_210111	11/01/2021	EM2100359	49.8	4.34	85.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	14.4	3.54	<0.02	15.7	4.89	2.87	0.05	<0.02	<0.02	9.08	2.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	135	193
MW2200	Q2	0939_MW2200_210813	13/08/2021	EM2116269	37.5	3.27	60.6	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	9.7	2.1	<0.04	12.3	4.05	1.63	<0.04	<0.04	<0.04	7.01	0.5	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	98.1	139
MW2200	Q2	0939_MW2200_220131	31/01/2022	EM2201740	46.3	3.49	67.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	12.1	2.18	<0.04	11.4	5.74	1.89	<0.04	<0.04	<0.04	7.95	0.6	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	114	159
MW2200	Q2	0939_MW2200_220726	26/07/2022	EM2214753	50.1	2.94	59.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	8.04	1.78	<0.02	9.46	4.48	1.49	<0.02	<0.02	<0.02	6.26	0.6	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	110	145
MW2201	Q1	0939_GW2201_S_180201	1/02/2018	583482	0.06	<0.01	0.73	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.02	<0.01	0.07	0.02	<0.01	<0.01	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.79	1.03
MW2201	Q1	0939_GW2201_S_180627	27/06/2018	605360	0.06	0.01	1.0	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.07	0.01	<0.01	<0.01	<0.01	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.06	1.31
MW2201	Q1	0939_MW2201_200323	23/03/2020	ES2010099	1.24	<0.01	0.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.42	1.47
MW2201	Q1	0939_MW2201_200720	21/07/2020	EM2012633	1.31	0.12	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.39	1.53
MW2201	Q1	0939_MW2201_210111	11/01/2021	EM2100359	0.84	<0.01	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.94	0.94
MW2201	Q1	0939_MW2201_210813	13/08/2021	EM2116269	0.64	<0.01	0.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.05	1.16
MW2201	Q1	0939_MW2201_220201	1/02/2022	EM2201740	0.59	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.68	0.68
MW2201	Q1	0939_MW2201_220725	25/07/2022	EM2214753	0.32	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.48	0.48
MW2202	Q2	0939_GW2202_I_180627	27/06/2018	605360	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2202	Q2	0939_MW2202_200323	23/03/2020	ES2010099	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2202	Q2	0939_MW2202_200720	20/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2202	Q2	0939_MW2202_210111	11/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2202	Q2	0939_MW2202_210813	13/08/2021	EM2116269	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2202	Q2	0939_MW2202_220201	1/02/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2202	Q2	0939_MW2202_220725	25/07/2022	EM2214753	0.09	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.11	0.11
MW2203	Q1	0939_GW2203_S_180214	14/02/2018	585260	5,300	110	1,600	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	160	58	<0.01	320	180	42	<0.01	<0.01	<0.01	140	32	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6,900	7,942
MW2203	Q1	0939_GW2203_S_180628	28/06/2018	605771	5,300	110	1,200	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	170	62	0.69	260	200	39	<0.2	<0.2	<0.2	110	28	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6,500	7,479.69
MW2203	Q1	0939_MW2203_200324	24/03/2020	ES2010468	3,800	82.0	1,040	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	143	45.2	<0.50	230	135	31.6	<0.50	<0.50	<0.50	98.8	11.3	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	<0.50	4,840	5,620
MW2203	Q1	0939_MW2203_200721	21/07/2020	EM2012633	2,700	58.0	796	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<12.5	83.5	35.0	<5.00	178	58.5	24.0	<5.00	<5.00	<5.00	68.5	<25.0	<12.5	<12.5	<12.5	<12.5	<5.00	<5.00	<5.00	3,500	4,000
MW2203	Q1	0939_MW2203_210114	14/01/2021	EM2100517	2,890	62.0	838	<0.05	0.45	<0.05	<0.05	<0.04	<0.04	<0.10	94.4	36.7	0.44	183	79.5	25.8	<0.04	<0.04	0.04	72.9	14.5	<0.10	<0.10	<0.10	<0.10	<0.04	0.51	<0.04	3,730	4,290
MW2203	Q1	0939_MW2203_210813	13/08/2021	EM2116269	3010	49.6	763	<0.05	0.18	<0.05	<0.05	<0.04	<0.04	<0.1	60.7	30	0.23	143	62.8	20.8	<0.04	<0.04	0.05	58	8.8	<0.1	<0.1	<0.1	<0.1	<0.04	0.11	<0.04	3,770	4210
MW2203	Q1	0939_MW2203_220131	31/01/2022	EM2201740	2880	39.2	542	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.01	77	23.2	<0.4	108	57.3	18.3	<0.4	<0.4	<0.4	49.5	3.4	<1.01	<1.01	<1.01	<1.01	<0.4	<0.4	<0.4	3420	3800
MW2203	Q1	0939_MW2203_220725	25/07/2022	EM2214753	4,330	59.2	875	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.87	113	37.8	<0.35	174	159	27.2	<0.35	<0.35	<0.35	79.6	5.8	<0.87	<0.87	<0.35	<0.87	<0.35	<0.35	<0.87	5,200	5,860
MW2209	Q2	0939_GW2209_I_180629	29/06/2018	605762	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2209	Q2	0939_MW2209_200325	25/03/2020	ES2010468	0.10	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.10	0.10
MW2209	Q2	0939_MW2209_200721	21/07/2020	EM2012633	0.11	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.11	0.11
MW2209	Q2	0939_MW2209_210112	12/01/2021	EM2100359	0.08	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.08
MW2209	Q2	0939_MW2209_210802	2/08/2021	EM2115885	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW2209	Q2	0939_MW2209_220201	1/02/2022	EM2202065	0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW2209	Q2	0939_MW2209_220726	26/07/2022	EM2214753	0.43	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.46	0.46

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																																			
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07					
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																					
MW2210	Q2	0939_GW2210_I_180629	29/06/2018	605762	97	2.7	38	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	3.9	2.2	0.02	9.3	3.5	1.3	<0.01	<0.01	0.01	6.1	1.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	135	165.43
MW2210	Q2	0939_QC109_200325^	25/03/2020	ES2010468	112	5.5	72.8	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	8.6	4.34	0.03	16.9	9.19	2.81	<0.02	<0.02	<0.02	10.5	3.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.04	<0.02	185	246
MW2210	Q2	0939_MW2210_200721	21/07/2020	EM2012633	119	5.91	66.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	12.4	4.81	<0.10	22.5	11.0	3.09	<0.10	<0.10	<0.10	12.2	3.4	<0.25	<0.25	<0.25	<0.25	<0.10	<0.10	<0.10	185	260
MW2210	Q2	0939_MW2210_210112	12/01/2021	EM2100359	109	3.61	58.1	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	8.85	2.78	<0.04	13.4	8.99	2.25	<0.04	<0.04	<0.04	10.5	1.5	<0.10	<0.10	<0.10	<0.10	<0.04	<0.04	<0.04	167	219
MW2210	Q2	0939_MW2210_210802	2/08/2021	EM2115885	163	5.83	87.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	11.9	4.38	<0.04	22.7	16.1	3.04	<0.04	<0.04	<0.04	16.9	1.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	250	333
MW2210	Q2	0939_MW2210_220201	1/02/2022	EM2202065	148	5.15	73.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	15.2	3.77	<0.04	19	16.3	3.23	<0.04	<0.04	<0.04	13.8	1.5	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	221	299
MW2210	Q2	0939_MW2210_220726	26/07/2022	EM2214753	66.3	3.00	40.4	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	5.87	2.26	<0.03	11.5	6.49	1.78	<0.03	<0.03	<0.03	7.16	0.8	<0.08	<0.08	<0.03	<0.08	<0.03	<0.03	<0.08	107	146
MW2216	Q2	0939_GW2216_I_180327	27/03/2018	591628	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2216	Q2	0939_GW2216_I_180628	28/06/2018	605771	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2216	Q2	0939_MW2216_200325	25/03/2020	ES2010468	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW2216	Q2	0939_MW2216_200721	21/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2216	Q2	0939_MW2216_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2216	Q2	0939_MW2216_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2216	Q2	0939_MW2216_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2216	Q2	0939_MW2216_220726	26/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW2218	Q2	0939_GW2218_I_180327	27/03/2018	591628	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2218	Q2	0939_GW2218_I_180627	27/06/2018	605360	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2218	Q2	0939_MW2218_200320	20/03/2020	ES2010099	3.65	0.10	1.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.20	0.04	<0.02	0.22	0.15	0.04	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.08	5.91
MW2218	Q2	0939_MW2218_200721	21/07/2020	EM2012633	2.42	0.06	0.76	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	0.02	<0.02	0.12	0.09	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	3.18	3.62
MW2218	Q2	0939_MW2218_210112	12/01/2021	EM2100359	0.82	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.98	1.00
MW2218	Q2	0939_MW2218_210802	2/08/2021	EM2115885	1.06	0.01	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.25	1.31
MW2218	Q2	0939_MW2218_220202	2/02/2022	EM2202065	1.14	0.03	0.28	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.42	1.63
MW2218	Q2	0939_MW2218_220726	26/07/2022	EM2214753	2.91	0.09	0.95	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.04	<0.02	0.22	0.09	0.03	<0.02	<0.02	<0.02	0.18	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	3.86	4.62
MW2270	Q3	0939_GW2270_D_180824	24/08/2018	614438	0.10	<0.01	0.18	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	0.38
MW2270	Q3	0939_GW2270_D_190218	18/02/2019	642294	0.14	0.02	0.41	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.03	<0.01	0.11	0.02	0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.55	0.89
MW2270	Q3	0939_MW2270_200323	23/03/2020	ES2010099	0.25	0.03	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.14	0.03	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.89	1.27
MW2270	Q3	0939_MW2270_200720	20/07/2020	EM2012633	0.42	0.04	0.80	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	0.03	<0.02	0.18	0.05	0.02	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.22	1.79
MW2270	Q3	0939_MW2270_210111	11/01/2021	EM2100359	0.24	0.03	0.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.11	0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.89	1.21
MW2270	Q3	0939_MW2270_210813	13/08/2021	EM2116269	0.3	0.03	0.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	0.02	<0.02	0.13	0.03	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.02	1.38
MW2270	Q3	0939_MW2270_220131	31/01/2022	EM2201740	0.44	0.05	0.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.16	0.04	<0.02	0.19	0.05	0.03	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.28	1.94
MW2270	Q3	0939_MW2270_220726	26/07/2022	EM2214753	0.52	0.06	1.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.17	0.04	<0.02	0.23	0.05	0.03	<0.02	<0.02	<0.02	0.16	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.59	2.33
MW2272	Q3	0939_GW2272_D_180814	16/08/2018	613276	1.4	0.15	1.5	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	0.29	0.12	<0.01	0.68	0.10	0.08	<0.01	<0.01	<0.01	0.32	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.9	4.78
MW2272	Q3	0939_GW2272_D_190218	18/02/2019	642294	13	4.6	32	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	7.1	4.2	<0.01	16	2.7	2.2	<0.01	<0.01	<0.01	8.5	2.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	45	95.64
MW2272	Q3	0939_MW2272D_190228	28/02/2019	EM1903143	8.86	1.75	19.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	4.02	1.51	<0.02	7.78	1.56	1.11	<0.02	<0.02	<0.02	3.63	0.9	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	28.0	50.2
MW2272	Q3	0939_MW2272D_190801	1/08/2019	ES1924554	44.8	9.44	102	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	17.5	6.99	0.05	40.2	7.41	6.70	<0.02	<0.02	<0.02	18.9	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.06	<0.02	147	254
MW2272	Q3	0939_MW2272_200325	25/03/2020	ES2010468	89.5	16.8	186	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	27.0	12.0	0.04	56.6	16.6	8.48	<0.02	<0.02	<0.02	30.5	6.9	<0.05	<0.05	<0.05	<0.05	<0.02	0.05	<0.02	276	450
MW2272	Q3	0939_MW2272_200721	21/07/2020	EM2012633	68.8	13.5	148	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	32.5	10.2	<0.05	48.2	10.3	7.06	<0.05	<0.05	<0.05	26.0	5.5	<0.12	<0.12	<0.12	<0.12	<0.05	0.05	<0.05	217	370
MW2272	Q3	0939_MW2272_210112	12/01/2021	EM2100359	66.6	10.6	120	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.11	23.3	7.52	<0.04	36.0	8.58	6.16	<0.04	<0.04	<0.04	19.7	3.8	<0.11	<0.11	<0.11	<0.11	<0.04	<0.04	<0.04	187	302
MW2272	Q3	0939_MW2272_210802	2/08/2021	EM2115885	115	17.3	182	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	21	12.2	<0.04	62.2	16.2	8.42	0.1	<0.04	<0.04	34.2	2.8	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	297	471
MW2272	Q3	0939_MW2272_220131	31/01/2022	EM2201740	77.5	11.8	121	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	34.4	7.85	<0.04	37.2	18.4	6.44	<0.04	<0.04	<0.04	24.8	2.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	198	341
MW2272	Q3	0939_MW2272_220725	25/07/2022	EM2214753	118	17.3	194	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	34.9	12.5	0.08	61.0	20.0	10.0	<0.04	<0.04	<0.04	35.3	4.7	<0.09	<0.09	<0.04	<0.09	<0.04	<0.04	<0.09	312	508
MW2275	Q3	0939_GW2275_D_180824	24/08/2018	614438	0.05	<0.01	0.07	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.14
MW2275	Q3	0939_GW2275_D_190218	18/02/2019	642294	0.18	0.19	1.6	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	0.36	0.04	0.04	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.78	2.59
MW2275	Q3	0939_MW2275_200323	23/03/2020	ES2010099	0.11	0.06	0.68	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.79	1.00
MW2275	Q3	0939_MW2275_200720	20/07/2020	EM2012633	0.17	0.09	0.91	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.17	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.08	1.40
MW2275	Q3	0939_MW2275_210111	11/01/2021	EM2100359	0.08	0.05	0.70	<0.05	0.10	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.78	1.17
MW2275	Q3	0939_MW2275_210812	12/08/2021	EM2116269	0.17	0.13	1.53	<0.05	0.09	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.2	0.02	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.7	2.27
MW2275	Q3	0939_MW2275_220131	31/01/2022	EM2201740	0.16	0.12	1.23	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.19	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.39	1.89
MW2275	Q3	0939_MW2275_220725	25/07/2022	EM2214753	0.18	0.12	1.32	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.19	0.03	0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.50	2.03
MW2281	Q3	0939_GW2281_D_181101	1/11/2018	625607	1.9	0.04	0.70	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	0.09	0.06	0.01	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.6	2.94
MW2281	Q3	0939_GW2281_D_181220	20/12/2018	EB1900412	0.92	0.09	0.44	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	0.03	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.36	1.62
MW2281	Q3	0939_GW2281_D_190218	18/02/2019	642294	1.4	0.03	0.63	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.01	<0.01	0.07	0.04	0.01	<0.01	<0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.03	2.32
MW2281	Q3	0939_MW2281_200323	23/03/2020	ES2010099	2.21	0.04	1.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.02	<0.02	0.12	0.09	<0.02	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	3.25	3.74
MW2281	Q3	0939_MW2281_200720	20/07/2020	EM2012633	1.42	0.02	0.57	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.07	0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.99	2.27
MW2281	Q3	0939_MW2281_210111	11/01/2021	EM2100359	2.00	0.04	0.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.11	0.07	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.94	3.37
MW2281	Q3	0939_MW2281_210812	12/08/2021	EM2116269	1.8	0.03	0.68	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.09	0.05	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.48	2.86
MW2281	Q3	0939_MW2281_220131	31/01/2022	EM2201740	1.24	0.03	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	<0.02	<0.02	0.06	0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.84	2.16
MW2281	Q3	0939_MW2281_220725	25/07/2022	EM2214753	1.90	0.04	0.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.11	0.07	<0.02	<0.02	<0.02	<0.02	0.12	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	2.72	3.14

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW2284	Q4	0939_GW2284_D_181220	20/12/2018	EB1900412	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW2284	Q4	0939_GW2284_D_190218	18/02/2019	642294	3.8	0.31	2.9	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.57	0.22	<0.01	1.1	0.31	0.15	<0.01	<0.01	<0.01	0.49	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6.7	10.19
MW2284	Q4	0939_MW2284D_190301	1/03/2019	EM1903143	6.49	0.51	5.11	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.05	0.42	<0.02	2.33	0.41	0.31	<0.02	<0.02	<0.02	0.98	0.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	11.6	17.8
MW2284	Q4	0939_MW2284D_190801	1/08/2019	ES1924554	5.38	0.28	3.31	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.58	0.20	<0.02	1.04	0.25	0.16	<0.02	<0.02	<0.02	0.53	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	8.69	11.7
MW2284	Q4	0939_MW2284_200325	25/03/2020	ES2010468	22.4	2.48	26.7	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	4.30	1.82	<0.02	7.54	2.59	1.26	<0.02	<0.02	<0.02	4.22	1.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	49.1	74.5
MW2284	Q4	0939_MW2284_200721	21/07/2020	EM2012633	11.2	1.44	14.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.67	1.16	<0.02	4.98	1.00	0.74	<0.02	<0.02	<0.02	2.53	0.6	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	25.4	40.5
MW2284	Q4	0939_MW2284_210112	12/01/2021	EM2100359	17.8	2.11	25.2	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	3.75	1.42	<0.02	7.44	1.58	1.27	0.11	<0.02	<0.02	3.60	1.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	43.0	65.3
MW2284	Q4	0939_MW2284_210802	2/08/2021	EM2115885	26.5	3.34	35.8	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	3.87	2.3	<0.04	11.4	2.9	1.57	<0.04	<0.04	<0.04	5.91	0.4	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	62.3	94
MW2284	Q4	0939_MW2284_220725	25/07/2022	EM2214753	28.2	3.41	35.5	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	5.13	2.40	<0.02	10.4	3.07	1.89	<0.02	<0.02	<0.02	5.85	0.2	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	63.7	96.0
MW2285	Q4	0939_GW2285_181127	27/11/2018	630138	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2285	Q4	0939_GW2285_D_190220	20/02/2019	642294	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW2285	Q4	0939_MW2285_200323	23/03/2020	ES2010099	0.85	0.02	0.30	<0.05	0.12	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.15	1.36
MW2285	Q4	0939_MW2285_200720	20/07/2020	EM2012633	0.63	0.02	0.18	<0.05	0.10	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.81	0.98
MW2285	Q4	0939_MW2285_210111	11/01/2021	EM2100359	0.12	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.17	0.17
MW2285	Q4	0939_MW2285_210812	12/08/2021	EM2116269	0.11	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.15	0.15
MW2285	Q4	0939_MW2285_220131	31/01/2022	EM2201740	0.15	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.2	0.2
MW2285	Q4	0939_MW2285_220725	25/07/2022	EM2214753	0.13	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.19	0.19
MW2286	Q4	0939_GW2286_D_190220	20/02/2019	642294	0.05	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.1
MW2286	Q4	0939_MW2286_200323	23/03/2020	ES2010099	1.04	0.04	1.00	<0.05	0.19	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	<0.02	<0.02	0.10	0.06	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.04	2.60
MW2286	Q4	0939_MW2286_200720	20/07/2020	EM2012633	1.13	0.04	0.92	<0.05	0.07	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.02	<0.02	0.09	0.06	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.05	2.50
MW2286	Q4	0939_MW2286_210111	11/01/2021	EM2100359	0.64	0.02	0.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.04	0.03	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.27	1.46
MW2286	Q4	0939_MW2286_210812	12/08/2021	EM2116269	0.44	<0.01	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.76	0.86
MW2286	Q4	0939_MW2286_220131	31/01/2022	EM2201740	0.44	0.01	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.8	0.93
MW2286	Q4	0939_MW2286_220725	25/07/2022	EM2214753	0.40	<0.01	0.30	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.70	0.79
MW2325	Q1	0939_GW0015_S_170728	28/07/2017	556791	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW2325	Q1	0939_GW0015_S_180628	28/06/2018	605771	<0.01	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW2325	Q1	0939_MW2325_200320	20/03/2020	ES2010099	0.24	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.29	0.29
MW2325	Q1	0661_MW2325_200721	21/07/2020	EM2012633	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2325	Q1	0661_MW2325_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2325	Q1	0661_MW2325_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2325	Q1	0661_MW2325_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW2325	Q1	0669_MW2325_220726	26/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW2358	Q1	0939_GW0008_S_170719	19/07/2017	555189	300	15	360	<0.2	<2	<2	<0.2	<0.01	<0.2	<0.2	52	15	<0.01	87	31	11	<0.2	<0.2	<0.01	44	9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	660	924
MW2358	Q1	0939_GW0008_S_180626	26/06/2018	605137	220	13	250	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	38	11	<0.01	57	19	6.8	<0.01	<0.01	<0.01	30	5.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	470	650.7
MW2358	Q1	0939_MW2358_200323	23/03/2020	ES2010099	142	9.49	234	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	43.9	9.10	<0.05	50.2	21.8	6.18	<0.05	<0.05	<0.05	25.7	2.9	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	376	545
MW2358	Q1	0939_MW2358_200720	20/07/2020	EM2012633	91.1	5.40	135	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	20.6	6.45	<0.05	33.2	7.10	4.05	<0.05	<0.05	<0.05	15.2	4.6	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	226	323
MW2358	Q1	0939_MW2358_210111	11/01/2021	EM2100359	177	10.5	265	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	35.1	9.38	<0.04	47.5	17.0	8.08	<0.04	<0.04	<0.04	25.8	2.0	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	442	597
MW2358	Q1	0939_MW2358_210812	12/08/2021	EM2116269	56.1	3.35	81.5	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	9.58	3.79	<0.04	21.5	4.77	2.52	<0.04	<0.04	<0.04	9.98	1.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	138	194
MW2358	Q1	0939_MW2358_220201	1/02/2022	EM2201740	32.6	1.95	49	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	8.69	2.45	<0.04	13.4	3.78	1.62	<0.04	<0.04	<0.04	6.28	0.6	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	81.6	120
MW2358	Q1	0939_MW2358_220725	25/07/2022	EM2214753	44.0	2.37	64.7	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	9.27	3.07	<0.02	14.0	4.42	2.10	<0.02	<0.02	<0.02	8.95	1.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	109	154
MW2394	Q1	0939_GW0303_S_170718	18/07/2017	555016	0.04	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.07
MW2394	Q1	0939_GW0303_S_180626	26/06/2018	605137	0.02	<0.01	0.08	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.15
MW2394	Q1	0939_MW2394_200323	23/03/2020	ES2010099	0.05	<0.01	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.37	0.50
MW2394	Q1	0939_MW2394_200720	20/07/2020	EM2012633	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW2394	Q1	0939_MW2394_210111	11/01/2021	EM2100359	0.01	<0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW2394	Q1	0939_MW2394_210812	12/08/2021	EM2116269	0.06	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.1	0.1
MW2394	Q1	0939_MW2394_220201	1/02/2022	EM2201740	0.12	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.14	0.14
MW2394	Q1	0939_MW2394_220725	25/07/2022	EM2214753	0.06	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.10	0.10
MW2411	Q1	0939_GW0321_S_170718	18/07/2017	555016	3.6	0.02	0.37	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	0.2	0.02	0.02	<0.01	<0.01	<0.01	0.14	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.97	4.59
MW2411	Q1	0939_GW0321_S_180626	26/06/2018	605137	0.37	<0.01	0.17	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.03	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.54	0.84
MW2411	Q1	0939_MW2411_200323	23/03/2020	ES2010099	2.47	0.04	0.85	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.06	<0.02	0.25	0.06	0.02	<0.02	<0.02	<0.02	0.15	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	3.32	4.01
MW2411	Q1	0939_MW2411_200720	20/07/2020	EM2012633	4.10	0.06	1.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.10	<0.02	0.35	0.09	0.04	<0.02	<0.02	<0.02	0.17	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.29	6.28
MW2411	Q1	0939_MW2411_210111	11/01/2021	EM2100359	1.38	0.01	0.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.04	<0.02	0.15	0.03	<0.02	0.04	<0.02	<0.02	0.11	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.92	2.41
MW2411	Q1	0939_MW2411_210812	12/08/2021	EM2116269	0.96	0.02	0.47	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.05	<0.02	0.22	0.02	<0.02	<0.02	<0.02	<0.02	0.13	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.43	2.29
MW2411	Q1	0939_MW2411_220201	1/02/2022	EM2201740	0.8	0.01	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	0.05	<0.02	0.18	0.02	<0.02	<0.02	<0.02	<0.02	0.25	0.3	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.22	2.14
MW2411	Q1	0939_MW2411_220725	25/07/2022	EM2214753	0.17	<0.01	0.43	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	0.06	<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	0.20	0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.60	1.30

Table T2: Groundwater Historical PFAS Analytical Results

Location Code	Aquifer	Field ID	Date	Lab Report	PFAS																													
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
MW2490	Q1	0939_GW0416_S_180629	29/06/2018	605762	1,600	62	1,300	<2	<2	<2	<2	<2	<2	<2	93	35	<2	210	47	21	<2	<2	<2	80	17	<2	<2	<2	<2	<2	<2	<2	2,900	3,465
MW2490	Q1	0939_MW2490_200324	24/03/2020	ES2010468	3,960	190	2,710	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.25	294	95.8	0.85	502	169	63.4	<0.50	<0.50	<0.50	232	19.8	<1.25	<1.25	<1.25	<1.25	<0.50	<0.50	<0.50	6,670	8,240
MW2490	Q1	0939_MW2490_200721	21/07/2020	EM2012633	5,760	220	3,700	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<12.5	432	115	<5.00	648	194	80.0	<5.00	<5.00	<5.00	263	57.5	<12.5	<12.5	<12.5	<12.5	<5.00	<5.00	<5.00	9,460	11,500
MW2490	Q1	0939_MW2490_210112	12/01/2021	EM2100359	3,270	132	2,270	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.10	316	61.0	0.43	336	160	48.1	0.17	<0.04	<0.04	159	17.9	<0.10	<0.10	<0.10	<0.10	<0.04	0.28	<0.04	5,540	6,770
MW2490	Q1	0939_MW2490_210802	2/08/2021	EM2115885	2980	122	1930	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.9	181	53.2	<0.36	322	161	41.9	<0.36	<0.36	<0.36	146	9.4	<0.9	<0.9	<0.9	<0.9	<0.36	0.43	<0.36	4,910	5950
MW2490	Q1	0939_MW2490_220201	1/02/2022	EM2202065	2210	77.6	1130	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.98	188	34.4	<0.39	183	106	26.3	<0.39	<0.39	<0.39	88.9	5.5	<0.98	<0.98	<0.98	<0.98	<0.39	<0.39	<0.39	3340	4050
MW2490	Q1	0939_MW2490_220726	26/07/2022	EM2214753	1,950	77.0	1,290	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.84	186	33.3	<0.34	170	110	27.0	<0.34	<0.34	<0.34	82.3	6.0	<0.84	<0.84	<0.34	<0.84	<0.34	<0.34	<0.84	3,240	3,930
MW2499	Q1	0939_GW0428_S_170725	25/07/2017	556151	370	6.8	99	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	15	6	<0.01	31	8.2	3	<0.01	<0.01	<0.01	14	3.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	469	556.3
MW2499	Q1	0939_GW0428_S_180628	28/06/2018	605771	650	9.4	79	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	9.1	<0.2	32	11	3.1	<0.2	<0.2	<0.2	13	3.7	<0.2	<0.2	<0.2	<0.2	<0.2	0.47	<0.2	729	824.77
MW2499	Q1	0939_MW0428S_190301	1/03/2019	EM1903143	318	7.00	61.6	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.50	11.4	6.70	<1.00	24.2	6.40	3.40	<1.00	<1.00	<1.00	10.3	<5.0	<2.50	<2.50	<2.50	<2.50	<1.00	<1.00	<1.00	380	449
MW2499	Q1	0939_MW0428S_190801	1/08/2019	ES1924554	31.3	0.91	9.90	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.24	2.02	0.05	1.59	0.84	0.33	<0.02	<0.02	<0.02	0.89	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.34	<0.02	41.2	49.4
MW2499	Q1	0939_MW2499_200323	23/03/2020	ES2010099	73.8	1.94	14.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	1.92	2.54	<0.05	4.48	1.30	0.67	0.12	<0.05	<0.05	1.90	0.6	<0.12	<0.12	<0.12	<0.12	<0.05	0.24	<0.05	88.6	104
MW2499	Q1	0939_MW2499_200721	21/07/2020	EM2012633	48.2	1.96	7.82	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	0.95	3.10	<0.05	3.08	0.50	0.67	<0.05	<0.05	<0.05	0.70	0.7	<0.12	<0.12	<0.12	<0.12	<0.05	0.24	<0.05	56.0	67.9
MW2499	Q1	0939_MW2499_210114	14/01/2021	EM2100517	61.6	2.06	84.0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	2.40	2.50	0.05	3.69	1.94	0.74	0.26	<0.02	<0.02	1.07	0.7	<0.05	<0.05	<0.05	<0.05	<0.02	0.22	<0.02	146	161
MW2499	Q1	0939_MW2499_210812	12/08/2021	EM2116269	189	3.05	16.8	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	1.94	2.58	0.06	4.9	1.82	0.76	0.09	<0.04	<0.04	1.57	0.7	<0.09	<0.09	<0.09	<0.09	<0.04	0.23	<0.04	206	224
MW2499	Q1	0939_MW2499_220201	1/02/2022	EM2202065	222	2.82	12.5	<0.4	0.49	<0.4	<0.4	<0.4	<0.4	<1	1.06	2.44	<0.4	3.85	1.32	0.56	<0.4	<0.4	<0.4	0.99	<2	<1	<1	<1	<1	<0.4	<0.4	<0.4	234	248
MW2499	Q1	0939_MW2499_220726	26/07/2022	EM2214753	2,560	16.1	117	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.08	13.4	6.49	0.43	28.8	33.7	3.39	0.17	<0.03	0.08	10.6	2.1	<0.08	<0.08	<0.03	<0.08	<0.03	0.32	<0.08	2,680	2,790
MW2501	Q1	0939_GW0431_S_170803	3/08/2017	557534	0.6	0.02	0.17	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	0.04	0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.77	0.92
MW2501	Q1	0939_GW0431_S_180626	26/06/2018	605137	0.61	0.03	0.14	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.05	<0.01	0.05	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.75	0.99
MW2501	Q1	0939_MW2501_200320	20/03/2020	ES2010099	0.61	0.03	0.20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.07	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.81	1.05
MW2501	Q1	0939_MW2501_200723	23/07/2020	EM2012841	0.42	0.03	0.17	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.09	<0.02	0.08	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.59	0.82
MW2501	Q1	0939_MW2501_210114	14/01/2021	EM2100517	0.20	0.02	0.10	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.30	0.36
MW2501	Q1	0939_MW2501_210802	2/08/2021	EM2115885	0.21	0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.29	0.38
MW2501	Q1	0939_MW2501_220202	2/02/2022	EM2202065	0.17	0.02	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.04	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.24	0.34
MW2501	Q1	0939_MW2501_220726	26/07/2022	EM2214753	0.15	0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.21	0.27
MW2528	Q1	0939_EDMW04_S_170726	26/07/2017	556590	57	2.2	14	<0.01	0.17	0.07	<0.01	0.01	<0.01	<0.01	1.9	9.5	0.24	11	1.3	1	<0.01	0.01	0.09	3.8	13	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	<0.05	71	115.56
MW2528	Q1	0939_EDMW04_S_180629	29/06/2018	605762	63	2.0	15	<0.01	0.18	0.12	<0.01	0.02	<0.01	<0.01	2.6	5.7	0.20	11	1.1	0.88	0.37	<0.01	0.12	3.6	7.9	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	<0.05	78	114.03
MW2528	Q1	0939_MW2528_200325	25/03/2020	ES2010468	37.2	1.88	12.6	<0.05	0.14	0.06	<0.05	<0.05	<0.05	<0.12	1.72	6.28	0.20	10.5	0.88	0.86	0.27	<0.05	0.10	2.83	5.1	<0.12	<0.12	<0.12	<0.12	<0.05	0.18	<0.05	49.8	80.8
MW2528	Q1	0939_MW2528_200721	21/07/2020	EM2012633	39.0	1.65	12.5	<0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.12	1.72	5.73	0.18	9.80	0.81	0.82	0.18	<0.05	0.07	2.64	6.9	<0.12	<0.12	<0.12	<0.12	<0.05	0.10	<0.05	51.5	82.2
MW2528	Q1	0939_MW2528_210112	12/01/2021	EM2100359	48.5	2.15	12.9	<0.05	0.28	0.10	<0.05	<0.02	<0.02	<0.05	1.74	5.36	0.21	9.58	1.27	1.04	0.28	<0.02	0.10	2.73	11.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.17	<0.02	61.4	97.5
MW2528	Q1	0939_MW2528_210802	2/08/2021	EM2115885	58.2	2.52	16.8	<0.05	0.2	0.11	<0.05	<0.04	<0.04	<0.09	2.01	8.09	0.31	15.2	1.49	1.05	0.18	<0.04	0.11	3.72	5.4	<0.09	<0.09	<0.09	<0.09	<0.04	0.07	<0.04	75	115
MW2528	Q1	0939_MW2528_220201	1/02/2022	EM2202065	40.6	1.85	11.8	<0.05	0.17	0.12	<0.05	<0.02	<0.02	<0.05	1.67	5.73	0.24	10.2	0.84	1.04	0.26	<0.02	0.1	2.86	10.3	<0.05	<0.05	<0.05	<0.05	<0.02	0.14	<0.02	52.4	87.9
MW2528	Q1	0939_MW2528_220726	26/07/2022	EM2214753	36.4	1.66	11.3	<0.05	0.15	0.12	<0.05	<0.02	<0.02	<0.05	1.69	6.68	0.21	11.2	1.18	0.96	0.22	<0.02	0.09	2.78	6.6	<0.05	<0.05	<0.02	<0.05	<0.02	0.11	<0.05	47.7	81.4
MW4001	Q1	0939_GW2101_170620	20/06/2017	551064	3	0.1	0.8	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.13	0.01	0.25	0.04	0.05	<0.01	<0.01	<0.01	0.09	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.8	4.69
MW4001	Q1	0939_GW2101_S_170728	28/07/2017	556791	3.5	0.13	1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.11	0.01	0.29	0.06	0.06	<0.01	<0.01	<0.01	0.09	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.5	5.52
MW4001	Q1	0939_GW2101_S_180731	31/07/2018	610368	2.8	0.08	0.87	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.10	<0.01	0.19	0.04	0.04	<0.01	<0.01	<0.01	0.07	0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.67	4.37
MW4001	Q1	0939_MW4001_200325	25/03/2020	ES2010468	1.47	0.04	0.30	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.77	1.93
MW4001	Q1	0939_MW4001_200722	22/07/2020	EM2012841	1.45	0.05	0.35	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.80	2.05
MW4001	Q1	0939_MW4001_210113	13/01/2021	EM2100517	1.01	0.04	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.24	1.38
MW4001	Q1	0939_MW4001_210806	6/08/2021	EM2115885	0.91	0.04	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.23	1.42
MW4001	Q1	0939_MW4001_220204	4/02/2022	EM2202066	0.82	0.04	0.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.04	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.06	1.26
MW4001	Q1	0939_MW4001_220725	25/07/2022	EM2214753	0.88	0.04	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	0.04	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.15	1.32
MW4003	Q1	0939_GW2103_170620	20/06/2017	551064	8.1	0.17	3.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.33	0.09	<0.01	0.42	0.2	0.07	<0.01	<0.01	<0.01	0.3	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	11.3	12.94
MW4003	Q1	0939_GW2103_S_170717	17/07/2017	555015	11	0.21	4.3	<0.01	<0.05	<0.01	<0.01	0.01	<0.01	<0.01	0.36	0.1	<0.01	0.47	0.25	0.09	<0.01	<0.01	<0.01	0.28	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15.3	17.14
MW4003	Q1	0939_GW2103_S_180731	31/07/2018	610368	13	0.21	4.8	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.48	0.13	<0.01	0.59	0.29	0.09	<0.01	<0.01	<0.01	0.35	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.8	20.02
MW4003	Q1	0939_MW4003_200320	20/03/2020	ES2010099	12.0	0.28	5.20	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.78	0.12	<0.02	0.66	0.40	0.12	<0.02	<0.02	<0.02	0.38	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	17.2	19.9
MW4003	Q1	0939_MW4003_200723	23/07/2020	EM2012841	8.00	0.16	2.74	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.06	<0.02	0.40	0.20	0.06	0.02	<0.02	<0.02	0.22	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	10.7	12.2
MW4003	Q1	0939_MW4003_210113	13/01/2021	EM2100517	8.47	0.23	3.61	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.65	0.08	<0.02	0.46	0.43	0.09	<0.02	<0.02	<0.02	0.29	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	12.1	14.3
MW4003	Q1	0939_MW4003_210805	5/08/2021	EM2115885	8.48	0.23	3.81	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.41	0.08	<0.04	0.48	0.26	0.08	<0.04	<0.04	<0.04	0.31	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	12.3	14.1
MW4003	Q1	0939_MW4003_220203	3/02/2022	EM2202066	8.5	0.22	3.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.34	0.09	<0.02	0.42	0.32	0.09	<0.02	<0.02	<0.02	0.36	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	12	13.9
MW4003	Q1	0939_MW4003_220728	28/07/2022	EM2214753	8.76	0.22	3.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.40	0.10	<0.02	0.47	0.26	0.10	<0.02	<0.02	<0.02	0.32	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	12.5	14.4
MW4009	Q1	0939_GW2123_S_180208	8/02/2018	584331	0.10	<0.01	0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	0.11
MW4009	Q1	0939_GW2123_S_180730	30/07/2018	610368	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4009	Q1	0939_GW2123_S_180905	5/09/2018	616328	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4009	Q1	0939_MW4009_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4009	Q1	0939_MW4009_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4009	Q1	0939_MW4009_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4009	Q1	0939_MW4009_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4009	Q1	0939_MW4009_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4009	Q1	0939_MW4009_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW4013	Q1	0939_GW2141_170620	20/06/2017	551064	8.7	0.24	4.7	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.28	0.1	<0.01	0.45	0.17	0.08	<0.01	<0.01	<0.01	0.2	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	13.4	14.98
MW4013	Q1	0939_GW2141_S_170717	17/07/2017	555015	13	0.24	4.6	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.37	0.1	<0.01	0.52	0.25	0.09	<0.01	<0.01	<0.01	0.27	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.6	19.52
MW4013	Q1	0939_GW2141_S_180801	1/08/2018	610368	7.2	0.12	2.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.25	0.07	<0.01	0.34	0.16	0.05	<0.01	<0.01	<0.01	0.18	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9.3	10.53
MW4013	Q1	0939_MW4013_200320	20/03/2020	ES2010099	7.88	0.24	4.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.35	0.11	<0.02	0.53	0.28	0.09	<0.02	<0.02	<0.02	0.28	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	12.1	14.0
MW4013	Q1	0939_MW4013_200723	23/07/2020	EM2012841	5.70	0.13	2.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.26	0.06	<0.02	0.36	0.15	0.06	<0.02	<0.02	<0.02	0.20	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	8.12	9.34
MW4013	Q1	0939_MW4013_210113	13/01/2021	EM2100517	5.11	0.15	2.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.48	0.05	<0.02	0.36	0.24	0.06	<0.02	<0.02	<0.02	0.21	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	7.63	9.18
MW4013	Q1	0939_MW4013_210806	6/08/2021	EM2115885	3.98	0.11	2.35	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.26	0.12	<0.04	0.36	0.09	<0.04	<0.04	<0.04	<0.04	0.22	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	6.33	7.49
MW4013	Q1	0939_MW4013_220204	4/02/2022	EM2202066	3.89	0.13	2.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.28	0.15	<0.02	0.43	0.11	0.07	<0.02	<0.02	<0.02	0.3	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	5.95	7.52
MW4013	Q1	0939_MW4013_220727	27/07/2022	EM2214753	3.72	0.12	2.33	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.24	0.12	<0.02	0.32	0.11	0.06	<0.02	<0.02	<0.02	0.25	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	6.05	7.27
MW4015	Q1	0939_GW2143_170620	20/06/2017	551064	10	0.29	7.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	0.14	<0.01	0.75	0.26	0.1	<0.01	<0.01	<0.01	0.41	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	17.1	19.64
MW4015	Q1	0939_GW2143_S_170717	17/07/2017	555015	10	0.21	5.3	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.47	0.12	<0.01	0.6	0.3	0.08	<0.01	<0.01	<0.01	0.37	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15.3	17.54
MW4015	Q1	0939_GW2143_S_180801	1/08/2018	610368	13	0.28	6.8	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.88	0.15	<0.01	0.91	0.47	0.11	<0.01	<0.01	<0.01	0.50	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	19.8	23.22
MW4015	Q1	0939_MW4015_200326	26/03/2020	ES2010684	11.6	0.26	7.84	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.68	0.14	<0.02	0.85	0.40	0.10	<0.02	<0.02	<0.02	0.50	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	19.4	22.5
MW4015	Q1	0939_MW4015_200723	23/07/2020	EM2012841	11.9	0.32	8.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	1.02	0.18	<0.02	1.03	0.51	0.12	<0.02	<0.02	<0.02	0.53	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	20.2	24.0
MW4015	Q1	0939_MW4015_210114	14/01/2021	EM2100517	6.50	0.18	4.65	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.88	0.07	<0.02	0.55	0.46	0.07	<0.02	<0.02	<0.02	0.30	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	11.2	13.7
MW4015	Q1	0939_MW4015_210805	5/08/2021	EM2115885	7.67	0.2	5.83	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.48	0.1	<0.04	0.64	0.26	0.07	<0.04	<0.04	<0.04	0.32	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	13.5	15.6
MW4015	Q1	0939_MW4015_220203	3/02/2022	EM2202066	5.96	0.14	3.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.32	0.08	<0.02	0.4	0.21	0.06	<0.02	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	9.68	11.1
MW4015	Q1	0939_MW4015_220728	28/07/2022	EM2214753	6.64	0.16	4.72	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.40	0.09	<0.02	0.49	0.23	0.07	<0.02	<0.02	<0.02	0.26	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	11.4	13.1
MW4020	Q1	0939_GW2222_S_180417	17/04/2018	594277	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4020	Q1	0939_GW2222_S_180730	30/07/2018	610368	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4020	Q1	0939_MW4020_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4020	Q1	0939_MW4020_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4020	Q1	0939_MW4020_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4020	Q1	0939_MW4020_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4020	Q1	0939_MW4020_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4020	Q1	0939_MW4020_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4021	Q2	0939_GW2223_I_180717	17/07/2018	608379	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4021	Q2	0939_GW2223_I_180730	30/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4021	Q2	0939_MW4021_200320	20/03/2020	ES2010099	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4021	Q2	0939_MW4021_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	Q2	0939_MW4021_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	Q2	0939_MW4021_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	Q2	0939_MW4021_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4021	Q2	0939_MW4021_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4022	Q2	0939_GW2224_I_180717	17/07/2018	608379	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4022	Q2	0939_GW2224_I_180730	30/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4022	Q2	0939_MW4022_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	Q2	0939_MW4022_200722	22/07/2020	EM2012841	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4022	Q2	0939_MW4022_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	Q2	0939_MW4022_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	Q2	0939_MW4022_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4022	Q2	0939_MW4022_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4023	Q1	0939_GW2225_S_180208	8/02/2018	584331	1.3	0.03	0.82	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.14	0.06	0.02	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.12	2.49
MW4023	Q1	0939_GW2225_S_180731	31/07/2018	610368	1.4	0.05	1.1	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	0.03	<0.01	0.19	0.13	0.02	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.5	3.1
MW4023	Q1	0939_MW4023_200320	20/03/2020	ES2010099	1.14	0.05	1.24	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.14	0.03	<0.02	0.22	0.11	0.03	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.38	3.02
MW4023	Q1	0939_MW4023_200722	22/07/2020	EM2012841	1.14	0.06	1.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.13	0.03	<0.02	0.23	0.10	0.03	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.55	3.20
MW4023	Q1	0939_MW4023_210112	12/01/2021	EM2100359	0.68	0.03	0.88	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.12	0.07	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.56	1.88
MW4023	Q1	0939_MW4023_210803	3/08/2021	EM2115885	0.92	0.04	1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.17	0.08	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.92	2.36
MW4023	Q1	0939_MW4023_220202	2/02/2022	EM2202065	0.8	0.04	0.87	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.02	<0.02	0.14	0.08	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.67	2.08
MW4023	Q1	0939_MW4023_220727	27/07/2022	EM2214753	0.74	0.04	0.86	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	0.14	0.09	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.60	2.01
MW4024	Q2	0939_GW2226_I_180717	17/07/2018	608379	0.71	0.03	0.82	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.08	0.05	0.02	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.53	1.81
MW4024	Q2	0939_GW2226_I_180731	31/07/2018	610368	0.56	0.03	0.56	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.01	<0.01	0.09	0.05	0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.12	1.38
MW4024	Q2	0939_MW4024_200320	20/03/2020	ES2010099	0.61	0.03	0.86	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.11	<0.02	<0.02	0.13	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.47	1.80
MW4024	Q2	0939_MW4024_200722	22/07/2020	EM2012841	0.66	0.03	0.78	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	0.12	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.44	1.77
MW4024	Q2	0939_MW4024_210112	12/01/2021	EM2100359	0.40	0.02	0.50	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.90	1.14
MW4024	Q2	0939_MW4024_210803	3/08/2021	EM2115885	0.45	0.02	0.58	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	0.1	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.03	1.25
MW4024	Q2	0939_MW4024_220202	2/02/2022	EM2202065	0.42	0.02	0.53	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.95	1.13
MW4024	Q2	0939_MW4024_220727	27/07/2022	EM2214753	0.44	0.02	0.56	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.08	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	1.00	1.18

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																																
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																	
MW4027	Q1	0939_GW2229_S_180327	27/03/2018	591628	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4027	Q1	0939_GW2229_S_180730	30/07/2018	610368	0.31	<0.01	0.12	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.43	0.57
MW4027	Q1	0939_GW2229_S_180731	31/07/2018	610368	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW4027	Q1	0939_MW4027_200327	27/03/2020	ES2011023	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW4027	Q1	0939_MW4027_200723	23/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4027	Q1	0939_MW4027_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4027	Q1	0939_MW4027_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4027	Q1	0939_MW4027_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4035	Q2	0939_GW2237_I_180717	17/07/2018	608379	26	0.50	12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.66	0.35	<0.01	0.89	0.60	0.18	<0.01	<0.01	<0.01	0.61	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	38	41.92
MW4035	Q2	0939_GW2237_I_180731	31/07/2018	610368	33	0.50	11	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.87	0.21	<0.01	1.2	0.57	0.18	0.05	<0.01	<0.01	0.63	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	44	48.37
MW4035	Q2	0939_MW4035_200320	20/03/2020	ES2010099	10.4	0.19	3.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.58	0.09	<0.02	0.49	0.34	0.08	<0.02	<0.02	<0.02	1.00	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	14.3	17.1
MW4035	Q2	0939_MW4035_200723	23/07/2020	EM2012841	9.50	0.31	3.78	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.74	0.13	<0.02	0.76	0.52	0.13	<0.02	<0.02	<0.02	1.27	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	13.3	17.2
MW4035	Q2	0939_MW4035_210113	13/01/2021	EM2100517	11.5	0.27	4.67	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.90	0.08	<0.02	0.61	0.71	0.11	<0.02	<0.02	<0.02	1.00	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	16.2	19.8
MW4035	Q2	0939_MW4035_210805	5/08/2021	EM2115885	13.7	0.32	6.4	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.09	0.62	0.15	<0.04	0.84	0.49	0.13	<0.04	<0.04	<0.04	0.78	<0.2	<0.09	<0.09	<0.09	<0.09	<0.04	<0.04	<0.04	20.1	23.4
MW4035	Q2	0939_MW4035_220203	3/02/2022	EM2202066	9.58	0.19	3.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.36	0.08	<0.02	0.47	0.33	0.08	<0.02	<0.02	<0.02	0.61	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	13	15.1
MW4035	Q2	0939_MW4035_220728	28/07/2022	EM2214753	12.8	0.32	6.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.64	0.14	<0.02	0.74	0.46	0.14	<0.02	<0.02	<0.02	0.72	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	18.9	22.0
MW4037	Q1	0939_GW2239_S_180305	5/03/2018	588459	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4037	Q1	0939_GW2239_S_180731	31/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4037	Q1	0939_MW4037_200324	24/03/2020	ES2010468	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4037	Q1	0939_MW4037_200723	23/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4037	Q1	0939_MW4037_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4037	Q1	0939_MW4037_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4037	Q1	0939_MW4037_220203	3/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4037	Q1	0939_MW4037_220727	27/07/2022	EM2214753	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.01	0.01
MW4041	Q1	0939_GW2243_S_180608	8/06/2018	602681	0.06	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.1
MW4041	Q1	0939_GW2243_S_180731	31/07/2018	610368	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
MW4041	Q1	0939_MW4041_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4041	Q1	0939_MW4041_200722	22/07/2020	EM2012841	0.05	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.05
MW4041	Q1	0939_MW4041_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4041	Q1	0939_MW4041_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4041	Q1	0939_MW4041_220203	3/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4041	Q1	0939_MW4041_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4045	Q2	0939_GW2247_I_180730	30/07/2018	610368	1.2	0.02	0.35	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.01	<0.01	0.04	0.02	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.55	1.71
MW4045	Q2	0939_GW2247_I_190219	19/02/2019	642294	0.67	0.01	0.20	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.03	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.87	0.97
MW4045	Q2	0939_MW4045_200324	24/03/2020	ES2010468	0.49	0.01	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.64	0.67
MW4045	Q2	0939_MW4045_200722	22/07/2020	EM2012841	0.47	0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.63	0.69
MW4045	Q2	0939_MW4045_210113	13/01/2021	EM2100517	0.27	<0.01	0.09	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.36	0.38
MW4045	Q2	0939_MW4045_210803	3/08/2021	EM2115885	0.29	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.37	0.37
MW4045	Q2	0939_MW4045_220131	31/01/2022	EM2201740	0.27	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.35	0.37
MW4045	Q2	0939_MW4045_220725	25/07/2022	EM2214753	0.21	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.29	0.29
MW4048	Q2	0939_GW2250_I_180327	27/03/2018	591628	1.1	0.06	0.59	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.06	0.01	0.12	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.69	2.1
MW4048	Q2	0939_GW2250_I_180731	31/07/2018	610368	1.6	0.07	0.57	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.06	<0.01	0.14	0.03	0.04	<0.01	<0.01	<0.01	0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.17	2.7
MW4048	Q2	0939_MW4048_200325	25/03/2020	ES2010468	0.86	0.06	0.54	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.05	<0.02	0.13	0.02	0.03	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.40	1.79
MW4048	Q2	0939_MW4048_200722	22/07/2020	EM2012841	1.02	0.06	0.52	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	0.05	<0.02	0.13	0.03	0.03	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.54	1.94
MW4048	Q2	0939_MW4048_210113	13/01/2021	EM2100517	0.73	0.04	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.09	<0.02	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.09	1.36
MW4048	Q2	0939_MW4048_210806	6/08/2021	EM2115885	0.6	0.04	0.36	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.96	1.2
MW4048	Q2	0939_MW4048_220204	4/02/2022	EM2202066	0.68	0.04	0.29	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.08	<0.02	0.03	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.97	1.23
MW4048	Q2	0939_MW4048_220725	25/07/2022	EM2214753	0.60	0.04	0.32	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.03	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.92	1.17
MW4052	Q1	0939_GW2254_S_180208	8/02/2018	584331	0.07	0.02	0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.12
MW4052	Q1	0939_GW2254_S_180730	30/07/2018	610368	0.05	0.02	0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.1
MW4052	Q1	0939_MW4052_200324	24/03/2020	ES2010468	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW4052	Q1	0939_MW4052_200722	22/07/2020	EM2012841	0.04	0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.05
MW4052	Q1	0939_MW4052_210113	13/01/2021	EM2100517	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4052	Q1	0939_MW4052_210803	3/08/2021	EM2115885	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4052	Q1	0939_MW4052_220203	3/02/2022	EM2202066	0.04	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW4052	Q1	0939_MW4052_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW4053	Q1	0939_GW2255_S_180202	2/02/2018	583482	0.89	0.03	0.37	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.01	0.04	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.26	1.48
MW4053	Q1	0939_GW2255_S_180730	30/07/2018	610368	1.6	0.04	0.55	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.02	<0.01	0.03	0.03	<0.01	<0.01	<0.01	<0.01	0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.15	2.45
MW4053	Q1	0939_MW4053_200324	24/03/2020	ES2010468	0.88	0.03	0.44	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.32	1.49
MW4053	Q1	0939_MW4053_200722	22/07/2020	EM2012841	0.84	0.03	0.37	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.06	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	1.21	1.36
MW4053	Q1	0939_MW4053_210113	13/01/2021	EM2100517	0.56	0.02	0.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.82	0.92
MW4053	Q1	0939_MW4053_210803	3/08/2021	EM2115885	0.49	0.02	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.71	0.79
MW4053	Q1	0939_MW4053_220131	31/01/2022	EM2201740	0.67	0.02	0.27	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.94	1.05
MW4053	Q1	0939_MW4053_220725	25/07/2022	EM2214753	0.81	0.03	0.37	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	1.18	1.32
MW4055	Q1	0939_GW2257_S_180615	15/06/2018	603430	0.77	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.77	0.77
MW4055	Q1	0939_GW2257_S_180730	30/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4055	Q1	0939_GW2257_S_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4055	Q1	0939_MW4055_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4055	Q1	0939_MW4055_200723	23/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4055	Q1	0939_MW4055_210113	13/01/2021	EM2100517	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW4055	Q1	0939_MW4055_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4055	Q1	0939_MW4055_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4055	Q1	0939_MW4055_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4057	Q1	0939_GW2259_S_180608	8/06/2018	602681	0.22	0.02	0.11	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.33	0.46
MW4057	Q1	0939_GW2259_S_180621	21/06/2018	604655	0.20	0.02	0.10	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.3	0.41
MW4057	Q1	0939_GW2259_S_180731	31/07/2018	610368	0.24	0.02	0.12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.36	0.5
MW4057	Q1	0939_GW2259_S_190219	19/02/2019	642294	0.06	0.02	0.12	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	0.3
MW4057	Q1	0939_MW4057_200326	26/03/2020	ES2010684	0.12	0.05	0.19	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.03	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.31	0.52
MW4057	Q1	0939_MW4057_200723	23/07/2020	EM2012841	0.09	0.04	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.25	0.41
MW4057	Q1	0939_MW4057_210114	14/01/2021	EM2100517	0.10	0.04	0.15	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.25	0.41
MW4057	Q1	0939_MW4057_210805	5/08/2021	EM2115885	0.07	0.02	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.19	0.25
MW4057	Q1	0939_MW4057_220203	3/02/2022	EM2202066	0.05	0.02	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.15	0.21
MW4057	Q1	0939_MW4057_220728	28/07/2022	EM2214753	0.04	0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.10	0.14
MW4058	Q1	0939_GW2260_S_180604	4/06/2018	601793	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4058	Q1	0939_GW2260_S_180731	31/07/2018	610368	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4058	Q1	0939_GW2260_S_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4058	Q1	0939_MW4058_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4058	Q1	0939_MW4058_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4058	Q1	0939_MW4058_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4058	Q1	0939_MW4058_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4058	Q1	0939_MW4058_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4058	Q1	0939_MW4058_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4059	Q1	0939_GW2261_S_180604	4/06/2018	601793	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
MW4059	Q1	0939_GW2261_S_180731	31/07/2018	610368	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4059	Q1	0939_MW4059_200320	20/03/2020	ES2010099	0.04	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW4059	Q1	0939_MW4059_200722	22/07/2020	EM2012841	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03
MW4059	Q1	0939_MW4059_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	Q1	0939_MW4059_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	Q1	0939_MW4059_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4059	Q1	0939_MW4059_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4060	Q1	0939_GW2262_S_180604	4/06/2018	601793	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
MW4060	Q1	0939_GW2262_S_180731	31/07/2018	610368	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4060	Q1	0939_MW4060_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	Q1	0939_MW4060_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	Q1	0939_MW4060_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	Q1	0939_MW4060_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	Q1	0939_MW4060_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4060	Q1	0939_MW4060_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																										0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW4061	Q1	0939_GW2263_S_180604	4/06/2018	601793	0.03	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.11
MW4061	Q1	0939_GW2263_S_180730	30/07/2018	610368	0.02	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW4061	Q1	0939_MW4061_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4061	Q1	0939_MW4061_200722	22/07/2020	EM2012841	0.02	0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.09
MW4061	Q1	0939_MW4061_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4061	Q1	0939_MW4061_220202	2/02/2022	EM2202065	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4061	Q1	0939_MW4061_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4063	Q1	0939_GW2265_S_181010	10/10/2018	622548	0.05	<0.01	0.03	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.1
MW4064	Q1	0939_GW2266_S_180904	4/09/2018	616328	0.03	<0.01	0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4064	Q1	0939_MW4064_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	Q1	0939_MW4064_200723	23/07/2020	EM2012841	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01
MW4064	Q1	0939_MW4064_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	Q1	0939_MW4064_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	Q1	0939_MW4064_220202	2/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4064	Q1	0939_MW4064_220728	28/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	Q2	0939_GW2267_I_180904	4/09/2018	616328	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4065	Q2	0939_MW4065_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	Q2	0939_MW4065_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	Q2	0939_MW4065_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	Q2	0939_MW4065_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	Q2	0939_MW4065_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4065	Q2	0939_MW4065_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4066	Q2	0939_GW2268_I_180904	4/09/2018	616328	0.10	0.02	0.32	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.02	<0.01	0.06	<0.01	0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.42	0.62
MW4066	Q2	0939_GW2268_I_190219	19/02/2019	642294	0.06	0.02	0.21	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	0.44
MW4066	Q2	0939_MW4066_200326	26/03/2020	ES2010684	0.07	0.02	0.21	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.28	0.48
MW4066	Q2	0939_MW4066_200723	23/07/2020	EM2012841	0.08	0.02	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.30	0.51
MW4066	Q2	0939_MW4066_210114	14/01/2021	EM2100517	0.06	0.02	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.22	0.39
MW4066	Q2	0939_MW4066_210805	5/08/2021	EM2115885	0.05	0.01	0.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.23	0.36
MW4066	Q2	0939_MW4066_220203	3/02/2022	EM2202066	0.05	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.19	0.31
MW4066	Q2	0939_MW4066_220728	28/07/2022	EM2214753	0.04	0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.20	0.30
MW4068	Q3	0939_GW2276_D_180906	6/09/2018	616328	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4068	Q3	0939_GW2276_D_190226	26/02/2019	642944	1.4	0.04	0.74	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.02	<0.01	0.11	0.06	0.02	<0.01	<0.01	<0.01	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.14	2.56
MW4068	Q3	0939_MW4068_200320	20/03/2020	ES2010099	15.7	0.34	6.82	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.99	0.16	<0.02	0.83	0.60	0.14	<0.02	<0.02	<0.02	0.51	0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	22.5	26.2
MW4068	Q3	0939_MW4068_200723	23/07/2020	EM2012841	13.3	0.31	5.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.81	0.13	<0.02	0.74	0.54	0.13	<0.02	<0.02	<0.02	0.52	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	18.4	21.6
MW4068	Q3	0939_MW4068_210113	13/01/2021	EM2100517	9.40	0.22	3.56	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.77	0.09	<0.02	0.51	0.49	0.10	<0.02	<0.02	<0.02	0.31	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	13.0	15.4
MW4068	Q3	0939_MW4068_210805	5/08/2021	EM2115885	6.87	0.15	3.21	<0.05	<0.05	<0.05	<0.05	<0.04	<0.04	<0.1	0.32	0.07	<0.04	0.39	0.21	0.05	<0.04	<0.04	<0.04	0.25	<0.2	<0.1	<0.1	<0.1	<0.1	<0.04	<0.04	<0.04	10.1	11.5
MW4068	Q3	0939_MW4068_220131	31/01/2022	EM2201740	5.69	0.14	2.5	<0.05	0.13	<0.05	<0.05	<0.02	<0.02	<0.05	0.29	0.08	<0.02	0.32	0.2	0.06	0.27	<0.02	<0.02	0.24	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	8.19	9.92
MW4068	Q3	0939_MW4068_220725	25/07/2022	EM2214753	5.91	0.12	2.39	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.27	0.06	<0.02	0.27	0.20	0.05	<0.02	<0.02	<0.02	0.23	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	8.30	9.50
MW4069	Q3	0939_GW2277_D_180906	6/09/2018	616328	3.1	0.09	1.2	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.06	<0.01	0.23	0.07	0.04	0.02	<0.01	<0.01	0.09	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.3	5.07
MW4069	Q3	0939_GW2277_D_190219	19/02/2019	642294	2.1	0.06	0.67	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	0.16	0.04	0.03	<0.01	<0.01	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.77	3.32
MW4069	Q3	0939_MW4069_200325	25/03/2020	ES2010468	1.74	0.07	0.94	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.10	0.05	<0.02	0.16	0.04	0.03	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.68	3.22
MW4069	Q3	0939_MW4069_200722	22/07/2020	EM2012841	3.00	0.11	1.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.18	0.08	<0.02	0.27	0.07	0.05	<0.02	<0.02	<0.02	0.13	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	4.41	5.30
MW4069	Q3	0939_MW4069_210113	13/01/2021	EM2100517	1.39	0.05	0.69	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.04	<0.02	0.11	0.03	0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.08	2.49
MW4069	Q3	0939_MW4069_210806	6/08/2021	EM2115885	1.58	0.06	0.77	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.1	0.05	<0.02	0.13	0.04	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.35	2.84
MW4069	Q3	0939_MW4069_220204	4/02/2022	EM2202066	1.44	0.06	0.63	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.04	<0.02	0.12	0.03	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	2.07	2.52
MW4069	Q3	0939_MW4069_220725	25/07/2022	EM2214753	1.49	0.05	0.74	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.09	0.05	<0.02	0.14	0.04	0.03	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	2.23	2.71
MW4070	Q3	0939_GW2278_181127	27/11/2018	630138	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4070	Q3	0939_GW2278_D_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4070	Q3	0939_MW4070_200324	24/03/2020	ES2010468	0.07	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.07
MW4070	Q3	0939_MW4070_200722	22/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4070	Q3	0939_MW4070_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4070	Q3	0939_MW4070_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4070	Q3	0939_MW4070_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4070	Q3	0939_MW4070_220725	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																														
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																															
MW4071	Q3	0939_GW2279_D_181220	20/12/2018	EB1900412	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05		
MW4071	Q3	0939_GW2279_D_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1		
MW4071	Q3	0939_MW4071_200320	20/03/2020	ES2010099	0.02	<0.01	<0.02	<0.05	0.08	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.10		
MW4071	Q3	0939_MW4071_200722	22/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02		
MW4071	Q3	0939_MW4071_210112	12/01/2021	EM2100359	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01		
MW4071	Q3	0939_MW4071_210803	3/08/2021	EM2115885	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01		
MW4071	Q3	0939_MW4071_220131	31/01/2022	EM2201740	0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.01	0.01		
MW4071	Q3	0939_MW4071_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01		
MW4072	Q1	0939_GW2280_S_180904	4/09/2018	616328	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1		
MW4072	Q1	0939_QC102_200320	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4072	Q1	0939_MW4072_200722	22/07/2020	EM2012841	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02		
MW4072	Q1	0939_MW4072_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4072	Q1	0939_MW4072_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4072	Q1	0939_MW4072_220203	3/02/2022	EM2202066	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02		
MW4072	Q1	0939_MW4072_220727	27/07/2022	EM2214753	<0.01	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.02	0.02		
MW4073	Q3	0939_GW2282_D_181101	1/11/2018	625607	0.04	0.03	0.29	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	0.04	<0.01	0.01	<0.01	<0.01	<0.01	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.33	0.57		
MW4073	Q3	0939_GW2282_D_181220	20/12/2018	EB1900412	0.24	0.06	0.54	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	0.07	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	0.78	1.13		
MW4073	Q3	0939_GW2282_D_190219	19/02/2019	642294	0.02	0.03	0.27	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.03	<0.01	0.01	<0.01	<0.01	<0.01	0.10	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.29	0.59	
MW4073	Q3	0939_MW4073_200326	27/03/2020	ES2010684	0.20	0.12	0.40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	<0.2	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	0.60	0.82		
MW4073	Q3	0939_MW4073_200723	23/07/2020	EM2012841	0.07	0.04	0.42	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.07	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.49	0.79		
MW4073	Q3	0939_MW4073_210114	14/01/2021	EM2100517	0.07	0.03	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.30	0.45		
MW4073	Q3	0939_MW4073_210805	5/08/2021	EM2115885	0.07	0.03	0.23	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.30	0.45		
MW4073	Q3	0939_MW4073_220203	3/02/2022	EM2202066	0.07	0.04	0.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.32	0.48		
MW4073	Q3	0939_MW4073_220728	28/07/2022	EM2214753	0.06	0.04	0.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.32	0.49		
MW4074	Q3	0939_GW2283_D_181220	20/12/2018	EB1900412	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4074	Q3	0939_GW2283_D_190219	19/02/2019	642294	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1		
MW4074	Q3	0939_MW4074_200324	24/03/2020	ES2010468	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4074	Q3	0939_MW4074_200722	22/07/2020	EM2012841	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03		
MW4074	Q3	0939_MW4074_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4074	Q3	0939_MW4074_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4074	Q3	0939_MW4074_220131	31/01/2022	EM2201740	0.09	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.09	0.09		
MW4074	Q3	0939_MW4074_220725	25/07/2022	EM2214753	0.15	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.15	0.15		
MW4075	Q4	0939_GW2287_D_190219	19/02/2019	642294	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1		
MW4075	Q4	0939_MW4075_200325	25/03/2020	ES2010468	0.07	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.21	0.30		
MW4075	Q4	0939_MW4075_200722	22/07/2020	EM2012841	0.05	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.20		
MW4075	Q4	0939_MW4075_210113	13/01/2021	EM2100517	0.05	<0.01	0.08	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.18		
MW4075	Q4	0939_MW4075_210806	6/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4075	Q4	0939_MW4075_220204	4/02/2022	EM2202066	0.11	0.02	0.34	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.03	<0.02	0.12	<0.02	0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.45	0.78		
MW4075	Q4	0939_MW4075_220725	25/07/2022	EM2214753	0.10	0.02	0.30	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.40	0.60		
MW4076	Q2	0939_GW2288_190129	29/01/2019	637994	0.03	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1		
MW4076	Q2	0939_GW2288_I_190219	19/02/2019	642294	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1		
MW4076	Q2	0939_MW4076_200324	24/03/2020	ES2010468	0.22	<0.01	0.07	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.29	0.29		
MW4076	Q2	0939_MW4076_200723	23/07/2020	EM2012841	0.09	0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.13	0.14		
MW4076	Q2	0939_MW4076_210113	13/01/2021	EM2100517	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02		
MW4076	Q2	0939_MW4076_220728	28/07/2022	EM2214753	0.02	<0.01	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.04	0.04		
MW4077	Q2	0939_GW2289_D_181220	20/12/2018	EB1900412	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02		
MW4077	Q2	0939_GW2289_I_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1		
MW4077	Q2	0939_MW4077_200320	20/03/2020	ES2010099	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4077	Q2	0939_MW4077_200722	22/07/2020	EM2012841	0.03	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	0.03		
MW4077	Q2	0939_MW4077_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4077	Q2	0939_MW4077_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4077	Q2	0939_MW4077_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01		
MW4077	Q2	0939_MW4077_220727	27/07/2022	EM2214753	0.04	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.05	0.05		

Table T2: Groundwater Historical PFAS Analytical Results

					PFAS																															
					Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluoroundecanoic acid (PFUnDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorononanoic acid (PFNA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorododecanoic acid (PFDoDA)	Perfluorodecanoic acid (PFDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.05	0.02	0.01	0.02	0.02	0.02	0.1	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.02	0.02	0.02	0.01	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.01	0.01
PFAS NEMP 2020 Human Health Drinking Water					0.07	0.56	0.07																											0.07	
Location Code	**Aquifer**	**Field ID**	**Date**	**Lab Report**																																
MW4078	Q4	0939_GW2290_190131	31/01/2019	638739	0.04	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.1
MW4078	Q4	0939_GW2290_D_190219	19/02/2019	642294	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4078	Q4	0939_MW4078_200324	24/03/2020	ES2010468	0.06	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.06
MW4078	Q4	0939_MW4078_200722	22/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	Q4	0939_MW4078_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	Q4	0939_MW4078_210803	3/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	Q4	0939_MW4078_220131	31/01/2022	EM2201740	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4078	Q4	0939_MW4078_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4079	Q4	0939_GW2291_D_190226	26/02/2019	642944	0.03	0.01	0.02	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
MW4079	Q4	0939_MW4079_200326	26/03/2020	ES2010684	0.01	<0.01	0.03	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.04
MW4079	Q4	0939_MW4079_200723	23/07/2020	EM2012841	0.62	0.02	0.26	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.04	0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.88	1.05
MW4079	Q4	0939_MW4079_210114	14/01/2021	EM2100517	0.02	0.01	0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	0.27
MW4079	Q4	0939_MW4079_210805	5/08/2021	EM2115885	<0.01	<0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.07
MW4079	Q4	0939_MW4079_220203	3/02/2022	EM2202066	<0.01	0.01	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.04	0.08
MW4079	Q4	0939_MW4079_220728	28/07/2022	EM2214753	0.01	0.02	0.06	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.07	0.14
MW4218	Q1	0939_MW4218_200819	19/08/2020	EM2014415	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4218	Q1	0939_MW4218_210112	12/01/2021	EM2100359	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4218	Q1	0939_MW4218_210802	2/08/2021	EM2115885	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4218	Q1	0939_MW4218_220202	2/02/2022	EM2202065	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4218	Q1	0939_MW4218_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4219	Q1	0939_MW4219_200723	23/07/2020	EM2012841	0.49	0.03	0.41	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.08	0.06	<0.02	0.09	0.03	0.02	<0.02	<0.02	<0.02	0.07	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.90	1.28
MW4219	Q1	0939_MW4219_210113	13/01/2021	EM2100517	0.20	0.01	0.18	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.38	0.48
MW4219	Q1	0939_MW4219_210803	3/08/2021	EM2115885	0.28	0.02	0.22	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.04	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.5	0.63
MW4219	Q1	0939_MW4219_220203	3/02/2022	EM2202066	0.22	0.01	0.14	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.36	0.42
MW4219	Q1	0939_MW4219_220728	28/07/2022	EM2214753	0.18	<0.01	0.16	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	0.34	0.38
MW4220	T1	0939_MW20327_200324	24/03/2020	ES2010468	0.02	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.02	0.02
MW4220	T1	0939_MW20327_200723	23/07/2020	EM2012841	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4220	T1	0939_MW20327_210113	13/01/2021	EM2100517	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4220	T1	0939_MW4220_210803	3/08/2021	EM2115882	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4220	T1	0939_MW4220_220203	3/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4220	T1	0939_MW4220_220727	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4221	T1	0939_21322_D_170807	7/08/2017	557436	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4221	T1	0939_MW21322_200325	25/03/2020	ES2010466	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	T1	0939_MW21322_200724	24/07/2020	EM2012822	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	T1	0939_MW21322_210119	19/01/2021	EM2100623	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	T1	0939_MW4221_210806	6/08/2021	EM2115881	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	T1	0939_MW4221_220204	4/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4221	T1	0939_MW4221_220725	27/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4222	T1	0939_22767_D_170807	7/08/2017	557436	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
MW4222	T1	0939_MW22767_200325	25/03/2020	ES2010466	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	T1	0939_MW22767_200724	24/07/2020	EM2012822	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	T1	0939_MW22767_210119	19/01/2021	EM2100623	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	T1	0939_MW4222_210806	6/08/2021	EM2115881	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	T1	0939_MW4222_220204	4/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4222	T1	0939_MW4222_220725	25/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01
MW4223	Q2	0939_MW15586_200325	25/03/2020	ES2010465	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	Q2	0939_MW15586_210115	15/01/2021	EM2100500	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	Q2	0939_MW4223_210730	30/07/2021	EM2115880	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	Q2	0939_MW4223_220204	4/02/2022	EM2202066	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01
MW4223	Q2	0939_MW4223_220729	29/07/2022	EM2214753	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.05	<0.05	<0.02	<0.05	<0.02	<0.02	<0.05	<0.01	<0.01

Legend:

LOR: Limit of reporting

µg/L: micrograms per Litre

Table T3: Surface Water Historical Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field Measured	Redox Potential - Corrected	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
SW003	06/04/2020	6.21	301.4	180.8	1.35	17.9	161.8	367.9	Pale yellow, low turbidity, no odour
SW003	20/07/2020	7.44	155.0	93.0	6.5	11.2	117.1	329.9	Clear, low turbidity, no odour
SW003	05/02/2021	6.23	541.20	324.7	3.58	17.97	159.60	365.63	Light Yellow, low turbidity, no odour. Drain, flows south west. Vegetation.
SW003	13/08/2021	8.15	399.6	239.8	6.92	15.57	-10.3	198.13	Clear, No odour. Approximately 5 m wide, 6 m high. Unlined drain/creek with vegetation.
SW003	25/07/2022	7.30	219	131	4.74	10.7	9.4	222.7	Clear, No odour. Approximately 5 m wide, 6 m high. Unlined drain/creek with vegetation.
SW006	06/04/2020	6.63	225.2	135.1	6.7	20.8	148.1	351.3	Pale yellow, low turbidity, slight organic odour
SW006	20/07/2020	7.28	233.0	139.8	5.9	11.8	131.5	343.7	Pale yellow, low turbidity, no odour
SW006	05/02/2021	6.97	244.80	146.9	5.98	18.87	104.40	309.53	Clear, low turbidity, no odour. Drain, flows south west, vegetation growing in water.
SW006	11/08/2021	6.43	206.4	123.8	5.34	11	66.1	279.1	Clear, No odour. Approximately 3-5 m wide. Unlined drain with vegetation. Flows south west.
SW006	24/07/2022	7.06	267	160	2.56	11.7	52.7	265	Clear, No odour. Approximately 3-5 m wide. Unlined drain with vegetation. Flows south west.
SW009	07/04/2020	7.62	471.3	282.8	4.93	22.2	164.4	366.2	Light olive brown, low turbidity, no odour
SW009	20/07/2020	7.86	167.6	100.6	7.2	13.0	163.3	374.3	Light yellow, low turbidity, no odour
SW009	05/02/2021	6.90	133.40	80.0	1.43	19.34	133.30	337.96	Clear, low turbidity, no odour. Drain, flows south west.
SW009	4/08/2021	8	266	159.6	9.06	14.22	188.6	398.38	Clear, No odour. Unlined drain/creek with vegetation, goes under road bridge. Approximtately 15 m wide at the widest, 1-2 m high banks.
SW009	27/07/2022	8.34	442	265	7.80	12.1	-17.1	194.8	Clear, No odour. Unlined drain/creek with vegetation, goes under road bridge. Approximtately 15 m wide at the widest, 1-2 m high banks.
SW010	07/04/2020	7.70	454.2	272.5	4.71	22.2	176.2	378.0	Light olive brown, low turbidity, slight compost odour
SW010	20/07/2020	7.88	175.4	105.2	6.1	14.2	144.6	354.4	Pale yellow, low turbidity, no odour
SW010	05/02/2021	7.16	267.20	160.3	4.75	19.58	104.70	309.12	Light olive brown, low turbidity, no odour. Dam, no apparent flow.
SW010	6/08/2021	8.48	192.4	115.4	9.98	14.87	233.7	442.83	Light Olive Brown, No odour. Approximately 3-5 m drain meets the dam. Unlined drain with vegetation. Flows south west into dam.
SW010	28/07/2022	8.32	233	140	8.25	14.6	1.8	211.2	Yellowish Brown, No odour. Approximately 3-5 m drain meets the dam. Unlined drain with vegetation. Flows south west into dam.
SW011	06/04/2020	6.73	1541.0	924.6	0.65	22.0	-33.7	168.3	Olive yellow, medium turbidity, organic odour
SW011	20/07/2020	Dry							
SW011	05/02/2021	6.36	722.80	433.7	2.82	19.12	127.80	332.68	Clear, low turbidity, no odour. Drain, flows south west.
SW011	4/08/2021	7.99	39	23.4	11.1	13.25	162.2	372.95	Clear, No odour. Approximately 10 m wide by 5 m high. Water draining from wetlands. Drains into three pipes, terraced drop off to drains.
SW011	28/07/2022	7.50	1196	718	7.50	12.4	23.5	235.1	Light Olive Brown, No odour. Approximately 10 m wide by 5 m high. Water draining from wetlands. Drains into three pipes, terraced drop off to drains.
SW012	06/04/2020	6.98	365.1	219.1	5.56	21.4	158.9	361.5	Pale yellow, low turbidity, no odour
SW012	20/07/2020	8.15	304.4	182.6	9.3	14.5	167.4	376.9	Light yellow, no turbidity, no odour. Stagnant.
SW012	05/02/2021	6.54	382.50	229.5	6.53	21.99	128.90	330.91	Clear, low turbidity, no odour. Drain, stagnant.
SW012	6/08/2021	8.27	209.3	125.6	8.63	13.96	196.3	406.34	Clear, No odour. Unlined drain/creek with vegetation, approximately 1-2 m wide. Flows south east.
SW012	26/07/2022	8.23	353	212	8.90	9.1	25	239.9	Clear, No odour. Unlined drain/creek with vegetation, approximately 1-2 m wide. Flows south east.
SW017	06/04/2020	6.72	287.7	172.6	3.88	18.3	141.6	347.3	Clear, low turbidity, no odour
SW017	20/07/2020	7.36	249.0	149.4	6.7	11.2	132.5	345.3	Clear, low turbidity, no odour
SW017	05/02/2021	7.01	243.40	146.0	5.65	18.07	158.16	364.09	Yellowish brown, low turbidity, no odour. Drain, flows south west. Vegeation.
SW017	13/08/2021	7.65	411.6	247.0	7.5	15.23	36.2	244.97	Clear, No odour. Approximately 5 m wide by 3 m high unlined drain with vegetation.
SW017	25/07/2022	7.59	320	192	5.27	10.5	-23.9	189.6	Clear, No odour. Approximately 5 m wide by 3 m high unlined drain with vegetation.
SW018	07/04/2020	Dry, inaccesible							
SW018	20/07/2020	7.40	231.0	138.6	7.0	11.1	128.0	340.9	Clear, low turbidity, no odour. Stagnant.
SW018	05/02/2021	7.2	268.5	161.1	4.08	18.45	97.1	302.65	Clear, low turbidity, no odour. Drain, stagnant.
SW018	4/08/2021	7.67	189.8	113.9	8.56	13.77	376.2	586.43	Pale yellow, Low turbidity, No odour. Approximately 6-8 m wide, banks gentle slope to 2 m high. Unlined drain with vegetation. Flows south.
SW018	26/07/2022	8.20	335	201	8.04	11.8	-62.5	149.7	Pale yellow, Low turbidity, No odour. Approximately 6-8 m wide, banks gentle slope to 2 m high. Unlined drain with vegetation. Flows south.
SW019	07/04/2020	6.59	361.0	216.6	4.51	18.0	150.3	356.3	Light olive brown, low turbidity, slight organic odour
SW019	20/07/2020	7.17	121.0	72.6	6.6	12.4	139.0	350.6	Clear, low turbidity, no odour. Stagnant.
SW019	05/02/2021	6.88	126.1	75.7	2.8	17.85	92	298.15	Clear, low turbidity, no odour. Drain, stagnant, vegetation in growing in water.
SW019	4/08/2021	7.86	107.6	64.6	8.41	14.71	209.5	418.79	Light Olive Brown, Medium turbidity, No odour. Approximately 2 m wide by 2 m high concrete drian, vegetation in drain. No apparent flow.
SW019	26/07/2022	7.82	155	93	4.34	13.1	-137.6	73.3	Light Olive Brown, Medium turbidity, No odour. Approximately 2 m wide by 2 m high concrete drian, vegetation in drain. No apparent flow.
SW021	06/04/2020	6.34	275.2	165.1	4.93	17.2	149.6	356.4	Pale yellow, no turbidity, slight organic odour
SW021	20/07/2020	7.18	318.6	191.2	6.4	11.9	131.1	343.2	Pale yellow, no turbidity, slight organic odour. Stagnant.
SW021	05/02/2021	6.8	255	153.0	5.42	18.78	109.7	314.92	Light olive brown, low turbidity, no odour. Drain, stagnant.
SW021	4/08/2021	8.08	153.9	92.3	9.19	15.04	266.6	475.56	Pale Yellow, Medium turbidity, No odour. Approximately 10-15 m wide unlined reed filled drain, no apparent flow direction.
SW021	26/07/2022	7.95	426	255	6.84	12.1	-192.1	19.8	Pale Yellow, Medium turbidity, No odour. Approximately 10-15 m wide unlined reed filled drain, no apparent flow direction.
SW028	06/04/2020	6.71	309.7	185.8	1.41	19.1	163.0	367.9	Pale yellow, no turbidity, slight organic odour
SW028	20/07/2020	7.29	202.2	121.3	4.8	12.0	128.9	340.9	Pale yellow, no turbidity, no odour
SW028	05/02/2021	5.39	274.40	164.6	1.27	17.55	157.10	363.55	Clear, low turbidity, no odour. Drain, flows west.
SW028	4/08/2021	8.52	192.8	115.7	11.72	15.61	328	536.39	Light Olive Brown, Turbid, No odour.
SW028	27/07/2022	9.23	234	140	14.50	12.7	-53.1	158.2	Light Olive Brown, Turbid, No odour.

Table T3: Surface Water Historical Field Parameters

Location ID	Date	pH	Electrical Conductivity	Estimated TDS*	Dissolved Oxygen	Temperature	Redox Potential - Field Measured	Redox Potential - Corrected	Comments
		pH units	µS/cm	mg/L	mg/L	°C	mV	mV	
SW029	06/04/2020	6.85	256.2	153.7	2.27	18.9	148.2	353.3	Pale yellow, no turbidity, slight organic odour
SW029	20/07/2020	7.35	229.2	137.5	4.1	12.4	127.8	339.4	Pale yellow, no turbidity, no odour
SW029	05/02/2021	5.83	341.40	204.8	0.48	18.20	136.10	341.90	Clear, low turbidity, no odour. Drain, flows west.
SW029	4/08/2021	8.07	240.1	144.1	12.98	15.3	305	513.7	Brown Green, Turbid, No odour. Approximately 8-10 m wide, banks sloped 4-5 m high. Concrete drain with vegetation on banks.
SW029	27/07/2022	8.62	768	461	9.18	13.5	-112	98.5	Brown Green, Turbid, No odour. Approximately 8-10 m wide, banks sloped 4-5 m high. Concrete drain with vegetation on banks.
SW032	06/04/2020	6.46	214.6	128.8	3.02	19.0	156.3	361.3	Pale yellow, no turbidity, no odour
SW032	20/07/2020	8.48	186.5	111.9	6.8	14.1	182.9	392.8	Pale yellow, no turbidity, no odour
SW032	05/02/2021	7.11	149.50	89.7	4.07	20.06	121.20	325.14	Clear, low turbidity, no odour. Drain, flows west.
SW032	4/08/2021	8.4	118.2	70.9	8.53	16.19	370.7	578.51	Light Olive Brown, Low turbidity, No odour. Approximately 4 m wide, banks slope gently 6 m high. Unlined drain with vegetation. No apparent flow direction.
SW032	28/07/2022	8.32	661	397	2.58	10.3	-75.6	138.1	Light Olive Brown, Low turbidity, No odour. Approximately 4 m wide, banks slope gently 6 m high. Unlined drain with vegetation. No apparent flow direction.
SW033	07/04/2020	Dry							
SW033	20/07/2020	7.48	117.0	70.2	7.0	13.5	154.7	365.2	Clear, low turbidity, no odour
SW033	05/02/2021	6.96	144.10	86.5	6.17	19.61	118.10	322.49	Clear, low turbidity, no odour. Drain, flows west
SW033	4/08/2021	7.93	247.2	148.3	12.51	18.79	352.9	558.11	Clear, No odour. Approximately 7 m wide by 5 m high banks. Unlined. Evidence of recent excavation, tyre tracks in drain, soil stockpiled on banks. No apparent flow.
SW033	28/07/2022	8.47	198	119	8.27	17.7	-32	174.3	Yellow, No odour. Approximately 7 m wide by 5 m high banks. Unlined. Evidence of recent excavation, tyre tracks in drain, soil stockpiled on banks. No apparent flow.
SW037	07/04/2020	Dry							
SW037	20/07/2020	7.64	113.0	67.8	7.6	11.4	89.9	302.5	Clear, low turbidity, no odour. Stagnant.
SW037	05/02/2021	Dry							
SW037	12/08/2021	Area is moist, insufficient water for sample and parameters.							
SW037	22/07/2022	Dry							
SW050	07/04/2020	Dry, inaccesible							
SW050	20/07/2020	7.79	120.4	72.2	6.0	12.7	175.8	387.1	Pale yellow, low turbidity, no odour
SW050	05/02/2021	7.05	135.5	81.3	5.36	19.26	94.2	298.94	Clear, low turbidity, no odour. Drain, stagnant/no apprent flow direction end of drain, vegetation.
SW050	4/08/2021	8.34	205	123.0	11.79	16.38	289.8	497.42	Clear, No odour. End of drain catchment in bird netted area, reeds and vegetation. No apparent flow direction.
SW050	26/07/2022	8.05	341	204	8.32	13.6	-93.8	116.6	Clear, No odour. End of drain catchment in bird netted area, reeds and vegetation. No apparent flow direction.
SW054	06/04/2020	7.12	384.6	230.8	5.16	21.5	158.2	360.7	Pale yellow, no turbidity, no odour
SW054	20/07/2020	8.36	205.8	123.5	8.2	13.6	136.4	346.8	Pale yellow, low turbidity, no odour. Stagnant.
SW054	05/02/2021	6.96	186.00	111.6	5.95	19.23	103.50	308.27	Light yellow, low turbidity, no odour. Drain, stagnant/no apprent flow direction end of drain. Vegetation.
SW054	4/08/2021	8.24	217.6	130.6	9.43	15.53	345.5	553.97	Clear, No odour. Bird netting area, approx 6-8 m wide, reeds and vegetation.
SW054	29/07/2022	7.48	269	161	9.00	13.1	-30.2	180.7	Clear, No odour. Bird netting area, approx 6-8 m wide, reeds and vegetation.
SW058	07/04/2020	7.68	434.0	260.4	4.79	22.1	166.7	368.6	Yellow brown, low turbidity, weak compost odour
SW058	20/07/2020	8.07	203.4	122.0	7.2	14.3	127.6	337.3	Light yellow, low turbidity, no odour
SW058	05/02/2021	7.29	271.00	162.6	5.45	19.59	105.40	309.81	Light olive brown, low turbidity, no odour. Drain, stagnant.
SW058	6/08/2021	8.63	219.8	131.9	8.6	15.66	209.6	417.94	Light Olive Brown, Low turbidity, No odour. At outlet/inlet of dam into the Kaurna Park wetlands. No apparent flow direction.
SW058	28/07/2022	8.12	230	138	9.25	14.0	9.5	219.5	Light Olive Brown, Low turbidity, No odour. At outlet/inlet of dam into the Kaurna Park wetlands. No apparent flow direction.
SW059	06/04/2020	6.65	169.2	101.5	3.89	21.4	104.7	307.3	Pale yellow, no turbidity, no odour
SW059	20/07/2020	7.71	82.5	49.5	7.0	14.2	126.1	335.9	Pale yellow, no turbidity, no odour. Stagnant.
SW059	05/02/2021	6.61	164.3	98.6	4.7	18.31	109.3	314.99	Clear, low turbidity, no odour. Drain, stagnant.
SW059	4/08/2021	8.26	103.5	62.1	9.48	12.9	329.5	540.6	Light Olive Brown, Low turbidity No odour. Approximately 1 m wide by 2 m high. Pollutant trap at drain. No apparent flow direction, drain orientated east-west. Oil-sheen at surface.
SW059	28/07/2022	8.38	180	108	9.36	13.0	-137.8	73.2	Milky Grey, Low turbidity, No odour. Approximately 1 m wide by 2 m high. Pollutant trap at drain. No apparent flow direction, drain orientated east-west. Oil-sheen at surface.
SW062	06/04/2020	7.38	1033.0	619.8	1.73	20.7	150.6	353.9	Pale yellow, no turbidity, slight organic odour
SW062	20/07/2020	7.48	352.6	211.6	5.7	13.4	157.2	367.8	Clear, no turbidity, slight organic odour
SW062	05/02/2021	6.58	469.70	281.8	3.24	19.16	114.40	319.24	Clear, low turbidity, no odour. Drain, flows south west.
SW062	3/08/2021	8.22	337.7	202.6	10.3	14.26	87.5	297.24	Clear, No odour. Approximately 5 m wide, banks to 3 m high. Vegetated, unlined drain. Algae close to banks. Flows south west.
SW062	28/07/2022	7.58	448	269	8.89	13.5	-21.6	188.9	Yellowish Brown, No odour. Approximately 5 m wide, banks to 3 m high. Vegetated, unlined drain. Algae close to banks. Flows south west.
SW078	06/04/2020	6.74	586.0	351.6	2.09	21.0	54.5	257.5	Olive yellow, medium turbidity, organic odour
SW078	20/07/2020	7.58	394.1	236.5	5.7	13.8	147.0	357.2	Light yellow, low turbidity, slight organic odour
SW078	05/02/2021	6.68	356.20	213.7	4.01	19.41	103.60	308.19	Clear, low turbidity, no odour. Drain, flows south west.
SW078	4/08/2021	8.84	234	140.4	6.1	13.08	173.5	384.42	Clear, No odour. Approximately 3 m wide by 4 m high banks. Concrete lined, vegetation at banks. Flows south into wetland.
SW078	28/07/2022	7.35	1347	808	3.13	14.9	-125.7	83.4	Clear, No odour. Approximately 3 m wide by 4 m high banks. Concrete lined, vegetation at banks. Flows south into wetland.

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

Table T4: Surface Water Historical PFAS Analytical Results

					PFAS																													
					Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorohexanoic acid (PFHxA)	Perfluorobutanoic acid (PFBA)	Perfluorooctanoic acid (PFOA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentanoic acid (PFPeA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.1	0.01	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01
Ecological Recep	PFAS NEMP FW 95% Species Protection								0.13				220																					
Human Health Re	PFAS NEMP (2020) PFAS Recreational Water						2		2				10																				2	
Location Code	**Field ID**	**Date**	**Lab Report**																															
SW003	0939_SW003_170720	20/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW003	0939_SW003_170906	6/09/2017	562532	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW003	0939_SW003_200406	6/04/2020	ES2012050	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW003	0939_SW003_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW003	0939_SW003_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW003	0939_SW003_210813	13/08/2021	EM2116269	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW003	0939_SW003_220726	26/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW006	0939_SW006_170721	21/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
SW006	0939_SW006_170907	7/09/2017	562532	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.1
SW006	0939_SW006_200406	6/04/2020	ES2012050	<0.02	0.02	0.13	0.02	1.64	<0.02	0.05	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.77	1.89
SW006	0939_SW006_200819	19/08/2020	EM2014416	<0.02	<0.02	0.04	<0.02	0.11	<0.02	0.03	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.18
SW006	0939_SW006_210205	5/02/2021	EM2101800	0.02	<0.02	0.2	<0.02	0.67	<0.02	0.08	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.87	1
SW006	0939_SW006_210812	12/08/2021	EM2116269	<0.02	<0.02	0.06	<0.02	0.48	<0.02	<0.02	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.54	0.55
SW006	0939_SW006_220725	25/07/2022	EM2214753	<0.02	<0.02	0.02	<0.02	0.09	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.11
SW009	0939_SW009_170720	20/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
SW009	0939_SW009_170906	6/09/2017	562532	<0.01	<0.01	0.02	<0.01	0.14	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.16
SW009	0939_SW009_200407	7/04/2020	ES2012050	<0.02	<0.02	0.04	<0.02	0.09	<0.02	<0.02	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.13	0.14
SW009	0939_SW009_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW009	0939_SW009_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW009	0939_SW009_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07
SW009	0939_SW009_220727	27/07/2022	EM2214753	<0.02	<0.02	0.01	<0.02	0.07	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08
SW010	0939_SW010_170720	20/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
SW010	0939_SW010_170906	6/09/2017	562532	<0.01	<0.01	0.02	<0.01	0.14	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.16
SW010	0939_SW010_180501	1/05/2018	596509	0.02	0.02	0.14	<0.01	0.24	<0.01	0.2	0.09	0.08	0.05	0.01	<0.01	0.02	<0.01	0.08	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.38	0.95
SW010	0939_SW010_181024	24/10/2018	624332	<0.01	<0.01	0.06	0.01	0.16	<0.01	0.02	<0.05	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	0.28
SW010	0939_SW010_200407	7/04/2020	ES2012050	<0.02	<0.02	0.1	<0.02	0.26	<0.02	0.04	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.36	0.43
SW010	0939_SW010_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.15
SW010	0939_SW010_210205	5/02/2021	EM2101800	<0.02	<0.02	0.03	<0.02	0.08	<0.02	0.03	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.11	0.15
SW010	0939_SW010_210806	6/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12
SW010	0939_SW010_220728	28/07/2022	EM2214753	<0.02	<0.02	0.02	<0.02	0.05	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07
SW011	0939_SW011_170216	16/02/2017	NK	-	-	0.02	-	0.19	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-
SW011	0939_SW011_170720	20/07/2017	555730	<0.01	<0.01	0.02	<0.01	0.17	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.19	0.19
SW011	0939_SW011_170906	6/09/2017	562532	<0.01	<0.01	0.03	<0.01	0.18	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.21
SW011	0939_SW011_200406	6/04/2020	ES2012050	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW011	0939_SW011_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW011	0939_SW011_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW011	0939_SW011_220728	28/07/2022	EM2214753	0.05	0.06	0.43	<0.02	0.27	<0.02	0.03	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.70	0.88
SW012	0939_SW012_170720	20/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.10	0.1
SW012	0939_SW012_170906	6/09/2017	562532	<0.01	<0.01	0.01	<0.01	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.13
SW012	0939_SW012_200406	6/04/2020	ES2012050	<0.02	<0.02	0.03	<0.02	0.07	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.10	0.1
SW012	0939_SW012_200819	19/08/2020	EM2014416	<0.02	<0.02	0.04	<0.02	0.11	<0.02	0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.17
SW012	0939_SW012_210205	5/02/2021	EM2101800	<0.02	<0.02	0.06	<0.02	0.11	<0.02	0.03	<0.1	0.02	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	0.25
SW012	0939_SW012_210806	6/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.03
SW012	0939_SW012_220727	27/07/2022	EM2214753	<0.02	<0.02	0.01	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05
SW017	0939_SW017_170720	20/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW017	0939_SW017_170906	6/09/2017	562532	<0.01	<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	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
SW017	0939_SW017_200406	6/04/2020	ES2012050	<0.02	<0.02	0.06	<0.02	0.11	<0.02	<0.02	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.17	0.18
SW017	0939_SW017_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW017	0939_SW017_210205	5/02/2021	EM2101800	<0.02	<0.02	0.1	<0.02	0.2	<0.02	0.05	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.30	0.37
SW017	0939_SW017_210813	13/08/2021	EM2116269	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW017	0939_SW017_220726	26/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01

Table T4: Surface Water Historical PFAS Analytical Results

		PFAS																												
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorohexanoic acid (PFHxA)	Perfluorobutanoic acid (PFBA)	Perfluorooctanoic acid (PFOA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentanoic acid (PFPeA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR		0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.1	0.01	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01
Ecological Recep	PFAS NEMP FW 95% Species Protection					0.13				220																					
Human Health Re	PFAS NEMP (2020) PFAS Recreational Water			2		2				10																				2	
Location Code	**Field ID**	**Date**	**Lab Report**																												
SW018	0939_SW018_170720	20/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW018	0939_SW018_170906	6/09/2017	562532	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW018	0939_SW018_200819	19/08/2020	EM2014416	<0.02	<0.02	0.06	<0.02	0.27	<0.02	0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.33	0.35
SW018	0939_SW018_210205	5/02/2021	EM2101800	0.05	0.04	0.27	<0.02	0.7	<0.02	0.06	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.97	1.15
SW018	0939_SW018_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW018	0939_SW018_220726	26/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW019	0939_SW019_170720	20/07/2017	555730	3.1	3.1	28	2.2	120	<0.01	8.4	1.3	3.3	1.1	<0.01	0.17	0.08	<0.01	2.5	<0.01	<0.01	<0.01	1.2	0.13	<0.01	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	148	174.68
SW019	0939_SW019_170906	6/09/2017	562532	0.45	0.49	4	0.3	11	<0.01	1.2	0.21	0.82	0.27	0.02	<0.01	0.04	<0.01	0.47	<0.01	0.01	<0.01	0.22	0.09	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15	19.59
SW019	0939_SW019_200407	7/04/2020	ES2012050	0.33	0.33	1.7	0.13	4.04	<0.02	0.87	0.3	0.31	0.19	0.05	<0.02	0.08	<0.05	0.44	<0.02	<0.02	<0.05	0.16	0.14	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	5.74	9.07
SW019	0939_SW019_200819	19/08/2020	EM2014416	0.04	0.03	0.25	0.02	1.53	<0.02	0.1	<0.1	0.06	0.03	0.02	<0.02	0.02	<0.05	0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	1.78	2.15
SW019	0939_SW019_210205	5/02/2021	EM2101800	0.17	0.07	0.5	0.02	0.94	<0.02	0.2	<0.1	0.08	0.04	0.02	<0.02	0.02	<0.05	0.08	<0.02	<0.02	<0.05	0.12	0.1	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.44	2.36
SW019	0939_SW019_210804	4/08/2021	EM2115885	<0.02	<0.02	0.13	<0.02	0.36	<0.02	0.05	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.49	0.56
SW019	0939_SW019_220726	26/07/2022	EM2214753	0.09	0.08	0.52	0.05	1.45	<0.02	0.12	<0.1	0.07	0.04	<0.02	<0.02	<0.02	<0.05	0.03	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	1.97	2.45
SW021	0939_SW021_170721	21/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.1
SW021	0939_SW021_170907	7/09/2017	562532	<0.01	<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	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
SW021	0939_SW021_200406	6/04/2020	ES2012050	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.04
SW021	0939_SW021_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW021	0939_SW021_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW021	0939_SW021_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW021	0939_SW021_220726	26/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	0939_SW028_170721	21/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW028	0939_SW028_170906	6/09/2017	562532	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW028	0939_SW028_200406	6/04/2020	ES2012050	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.01
SW028	0939_SW028_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	0939_SW028_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	0.01
SW028	0939_SW028_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW028	0939_SW028_220727	27/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	0939_SW029_170721	21/07/2017	555730	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW029	0939_SW029_170906	6/09/2017	562532	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW029	0939_SW029_200406	6/04/2020	ES2012050	<0.02	0.02	0.12	<0.02	0.08	<0.02	0.02	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.2	0.25
SW029	0939_SW029_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW029	0939_SW029_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW029	0939_SW029_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW029	0939_SW029_220727	27/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_170906	6/09/2017	562532	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW032	0939_SW032_200406	6/04/2020	ES2012050	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW032	0939_SW032_220728	28/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW033	0939_SW033_170906	6/09/2017	562532	<0.01	<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	<0.01	<0.01	<0.01	<0.01	<0.05	0.02	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	<0.1
SW033	0939_SW033_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW033	0939_SW033_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	0.01^	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01^	<0.01^
SW033	0939_SW033_210804	4/08/2021	EM2115885	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW033	0939_SW033_220728	28/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW037	0939_SW037_170720	20/07/2017	555730	<0.01	<0.01	0.01	<0.01	0.06	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.1
SW037	0939_SW037_170906	6/09/2017	562532	<0.01	<0.01	0.02	<0.01	0.1	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.13
SW037	0939_SW037_200819	13/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.03	0.03
SW050	0939_SW050_170721	21/07/2017	555730	<0.01	<0.01	0.01	<0.01	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.13
SW050	0939_SW050_170906	6/09/2017	562532	<0.01	<0.01	0.02	<0.01	0.19	<0.01	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.22
SW050	0939_SW050_200819	19/08/2020	EM2014416	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
SW050	0939_SW050_210205	5/02/2021	EM2101800	<0.02	<0.02	<0.02	<0.02	0.01^	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01^	<0.01^
SW050	0939_SW050_210813	13/08/2021	EM2116269	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW050	0939_SW050_220726	26/07/2022	EM2214753	<0.02	<0.02	<0.01	<0.02	0.06	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06

Table T4: Surface Water Historical PFAS Analytical Results

					PFAS																											
					Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorohexanoic acid (PFHxA)	Perfluorobutanoic acid (PFBA)	Perfluorooctanoic acid (PFOA)	Perfluoroheptanoic acid (PFHpA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoropentanoic acid (PFPeA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR					0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.1	0.01	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01
Ecological Recep	PFAS NEMP FW 95% Species Protection								0.13				220																					
Human Health Re	PFAS NEMP (2020) PFAS Recreational Water						2		2				10																				2	
Location Code	**Field ID**	**Date**	**Lab Report**																															
SW054	0939_SW054_170721	21/07/2017	555730		<0.01	<0.01	0.02	<0.01	0.22	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	0.24
SW054	0939_SW054_170907	7/09/2017	562532		<0.01	<0.01	0.02	<0.01	0.16	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	0.18
SW054	0939_SW054_200406	6/04/2020	ES2012050		<0.02	<0.02	0.04	<0.02	0.08	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.12
SW054	0939_SW054_200819	19/08/2020	EM2014416		<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.01	0.01
SW054	0939_SW054_210205	5/02/2021	EM2101800		<0.02	<0.02	<0.02	<0.02	0.01^	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01^	<0.01^
SW054	0939_SW054_210813	13/08/2021	EM2116269		<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW054	0939_SW054_220726	26/07/2022	EM2214753		<0.02	<0.02	0.01	<0.02	0.06	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.07	0.07
SW058	0939_SW058_170720	20/07/2017	555730		<0.01	<0.01	0.01	<0.01	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	0.13
SW058	0939_SW058_170906	6/09/2017	562532		<0.01	<0.01	0.02	<0.01	0.19	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.21
SW058	0939_SW058_180501	1/05/2018	596509		0.02	0.02	0.14	<0.01	0.26	<0.01	0.2	0.09	0.08	0.05	0.01	<0.01	0.02	<0.01	0.08	<0.01	0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.4	0.98
SW058	0939_SW058_181024	24/10/2018	624332		<0.01	<0.01	0.07	0.01	0.2	<0.01	0.02	<0.05	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.27	0.34
SW058	0939_SW058_200407	7/04/2020	ES2012050		<0.02	<0.02	0.11	<0.02	0.23	<0.02	0.04	<0.1	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.34	0.41
SW058	0939_SW058_2000819	19/08/2020	EM2014416		<0.02	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	0.15	0.15
SW058	0939_SW058_210205	5/02/2021	EM2101800		<0.02	<0.02	0.03	<0.02	0.09	<0.02	0.03	<0.1	0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.12	0.16
SW058	0939_SW058_210806	6/08/2021	EM2115885		<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW058	0939_SW058_220728	28/07/2022	EM2214753		<0.02	<0.02	0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.08	0.08
SW059	0939_SW059_170720	20/07/2017	555730		<0.01	<0.01	0.02	<0.01	0.21	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.23	0.23
SW059	0939_SW059_170906	6/09/2017	562532		<0.01	<0.01	0.03	<0.01	0.23	<0.01	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.26	0.27
SW059	0939_SW059_181024	24/10/2018	624332		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.1
SW059	0939_SW059_200406	6/04/2020	ES2012050		<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW059	0939_SW059_200819	19/08/2020	EM2014416		<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW059	0939_SW059_210205	5/02/2021	EM2101800		<0.02	<0.02	0.09	<0.02	0.18	<0.02	0.05	<0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.27	0.34
SW059	0939_SW059_210804	4/08/2021	EM2115885		<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW059	0939_SW059_220728	28/07/2022	EM2214753		<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01
SW062	0939_SW062_170810	10/08/2017	558342		<0.01	<0.01	0.02	<0.01	0.13	<0.01	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.15	0.18
SW062	0939_SW062_180829	29/08/2018	616888		<0.01	<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	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.1
SW062	0939_SW062_200406	6/04/2020	ES2012050		<0.02	<0.02	0.07	<0.02	0.08	<0.02	0.03	<0.1	0.01	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.15	0.21
SW062	0939_SW062_200819	19/08/2020	EM2014416		<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW062	0939_SW062_210205	5/02/2021	EM2101800		<0.02	<0.02	0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW062	0939_SW062_210804	4/08/2021	EM2115885		<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	0.04
SW062	0939_SW062_220728	28/07/2022	EM2214753		<0.02	<0.02	0.02	<0.02	0.03	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.05	0.05
SW078	0939_SW078_180501	1/05/2018	596509		<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.01	<0.1
SW078	0939_SW078_200406	6/04/2020	ES2012050		<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW078	0939_SW078_200819	19/08/2020	EM2014416		<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.02
SW078	0939_SW078_210205	5/02/2021	EM2101800		<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.01	<0.01
SW078	0939_SW078_210804	4/08/2021	EM2115885		<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.06
SW078	0939_SW078_220728	28/07/2022	EM2214753		<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.02	<0.1	<0.01	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<0.01

Legend:
LOR: Limit of reporting
µg/L: micrograms per litre
- not analysed
^Initial ALS results for PFOS show detect, however calculated as <LOR for sums.

Appendix E

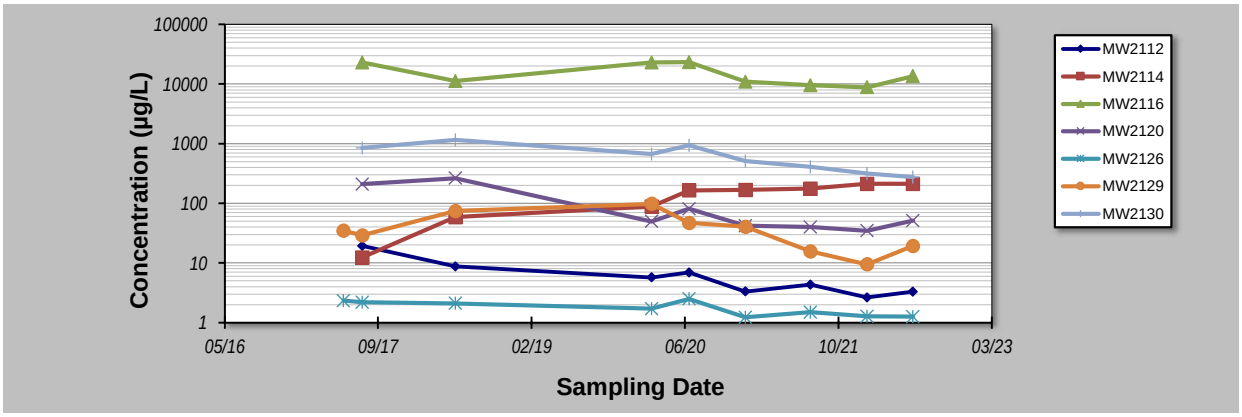
Mann-Kendall Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2112	MW2114	MW2116	MW2120	MW2126	MW2129	MW2130
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17					2.34	34.73	
2	Aug-17	19.4	12.4	23100	210	2.2	28.93	850
3	Jun-18	8.8	59	11200	264	2.1	74	1160
4	Mar-20	5.72	88.2	23000	49.7	1.71	98.3	670
5	Jul-20	6.9	165	23400	81.3	2.5	47.2	935
6	Jan-21	3.32	168	11000	41.9	1.23	40.4	510
7	Aug-21	4.32	176	9560	40.2	1.5	15.7	408
8	Feb-22	2.65	213	8860	34.9	1.27	9.51	316
9	Jul-22	3.29	213	13600	51.4	1.26	19.3	276
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.81	0.54	0.42	0.92	0.28	0.71	0.50
Mann-Kendall Statistic (S):		-22	27	-12	-16	-22	-14	-22
Confidence Factor:		99.8%	>99.9%	91.1%	96.9%	98.8%	91.0%	99.8%
Concentration Trend:		Decreasing	Increasing	Prob. Decreasing	Decreasing	Decreasing	Prob. Decreasing	Decreasing



Notes:

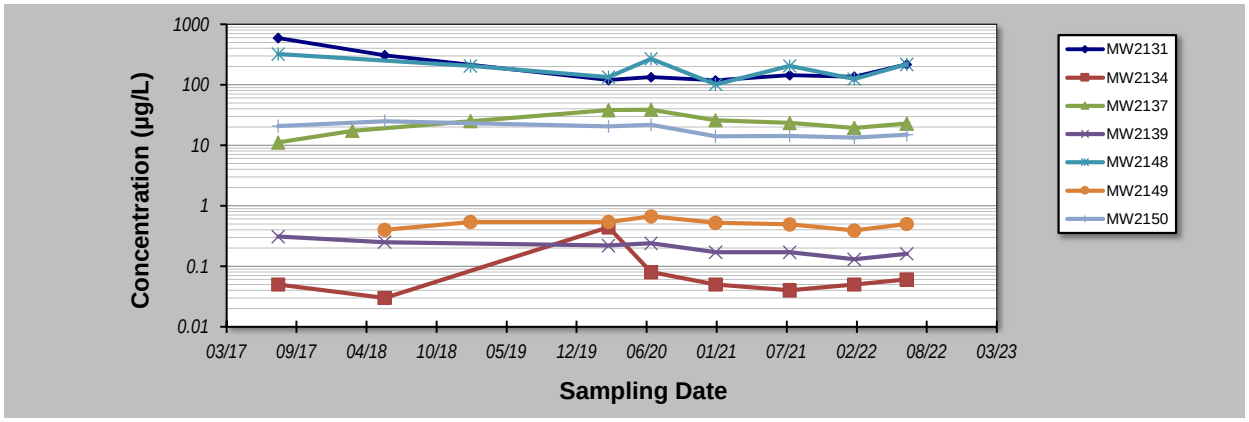
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2131	MW2134	MW2137	MW2139	MW2148	MW2149	MW2150
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-17	594	0.05	11.1	0.31	320		20.7
2	Mar-18			17.3				
3	Jun-18	306	0.03		0.25		0.4	25
4	Feb-19			25		204	0.54	
5	Aug-19							
6	Nov-19							
7	Feb-20							
8	Mar-20	120	0.44	38.1	0.22	133	0.54	20.6
9	Jul-20	133	0.08	38.8	0.24	267	0.67	21.9
10	Jan-21	118	0.05	26	0.17	101	0.52	14
11	Aug-21	144	0.04	23.4	0.17	205	0.49	14.2
12	Feb-22	135	0.05	19.3	0.13	124	0.39	13.4
13	Jul-22	217	0.06	22.7	0.16	216	0.5	14.9
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.74	1.38	0.37	0.29	0.38	0.17	0.25
Mann-Kendall Statistic (S):		-4	1	4	-23	-6	-7	-14
Confidence Factor:		64.0%	50.0%	61.9%	99.9%	72.6%	76.4%	94.6%
Concentration Trend:		Stable	No Trend	No Trend	Decreasing	Stable	Stable	Prob. Decreasing



Notes:

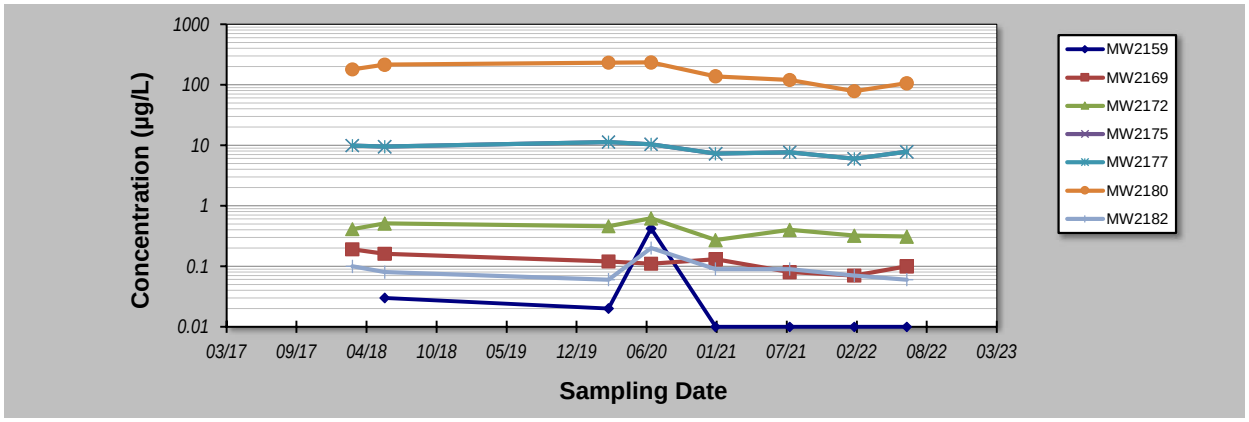
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFHxS+PFOS (Q1 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2159	MW2169	MW2172	MW2175	MW2177	MW2180	MW2182
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-17							
2	Mar-18		0.19	0.41	9.9	9.9	180	0.1
3	Jun-18	0.03	0.16	0.51	9.5	9.5	214	0.08
4	Feb-19							
5	Aug-19							
6	Nov-19							
7	Feb-20							
8	Mar-20	0.02	0.12	0.46	11.3	11.3	231	0.06
9	Jul-20	0.42	0.11	0.62	10.4	10.4	234	0.2
10	Jan-21	0.01	0.13	0.27	7.26	7.26	138	0.09
11	Aug-21	0.01	0.08	0.4	7.64	7.64	120	0.09
12	Feb-22	0.01	0.07	0.32	5.99	5.99	78.3	0.07
13	Jul-22	0.01	0.1	0.31	7.81	7.81	106	0.06
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.10	0.33	0.28	0.21	0.21	0.37	0.48
Mann-Kendall Statistic (S):		-11	-20	-12	-12	-12	-14	-10
Confidence Factor:		93.2%	99.3%	91.1%	91.1%	91.1%	94.6%	86.2%
Concentration Trend:		Prob. Decreasing	Decreasing	Prob. Decreasing	Prob. Decreasing	Prob. Decreasing	Prob. Decreasing	Stable



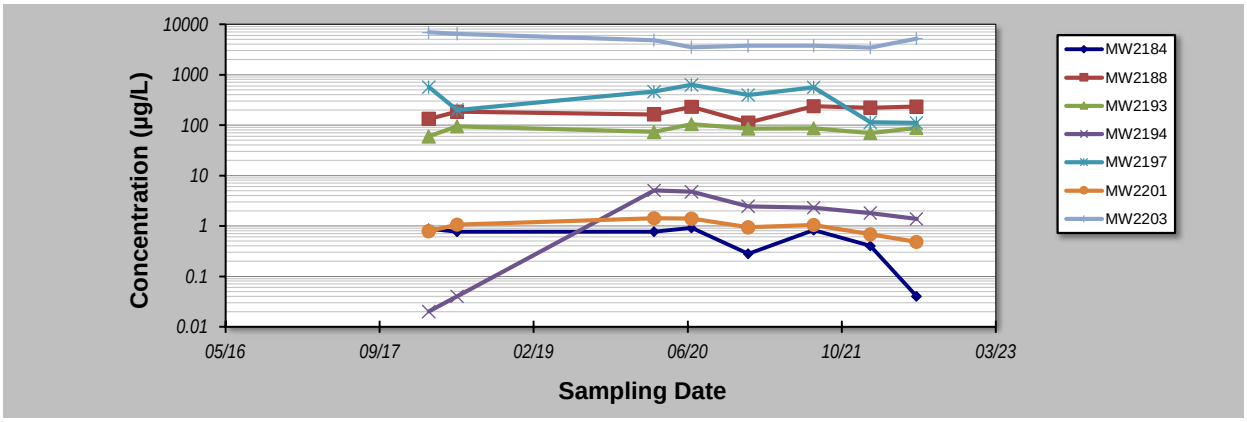
Notes:

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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-22	Job ID:	60612561
Facility Name:	RAAF Base Edinburgh	Constituent:	PFHxS+PFOS (Q1 aquifer)
Conducted By:	[redacted]	Concentration Units:	µg/L

Sampling Point ID:	MW2184	MW2188	MW2193	MW2194	MW2197	MW2201	MW2203
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17							
2	Mar-18	0.88	133	60	0.02	570	0.79	6900
3	Jun-18	0.77	184	95	0.04	200	1.06	6500
4	Feb-19							
5	Aug-19							
6	Nov-19							
7	Feb-20							
8	Mar-20	0.77	162	73.5	5.07	463	1.42	4840
9	Jul-20	0.91	231	105	4.77	630	1.39	3500
10	Jan-21	0.28	112	85.7	2.44	397	0.94	3730
11	Aug-21	0.82	238	85.9	2.3	562	1.05	3770
12	Feb-22	0.4	221	69.8	1.8	114	0.68	3420
13	Jul-22	0.04	233	87.9	1.38	110	0.48	5200
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.53	0.26	0.17	0.85	0.56	0.34	0.29
Mann-Kendall Statistic (S):		-13	12	4	-2	-12	-12	-12
Confidence Factor:		92.9%	91.1%	64.0%	54.8%	91.1%	91.1%	91.1%
Concentration Trend:		Prob. Decreasing	Prob. Increasing	No Trend	Stable	Prob. Decreasing	Prob. Decreasing	Prob. Decreasing



Notes:

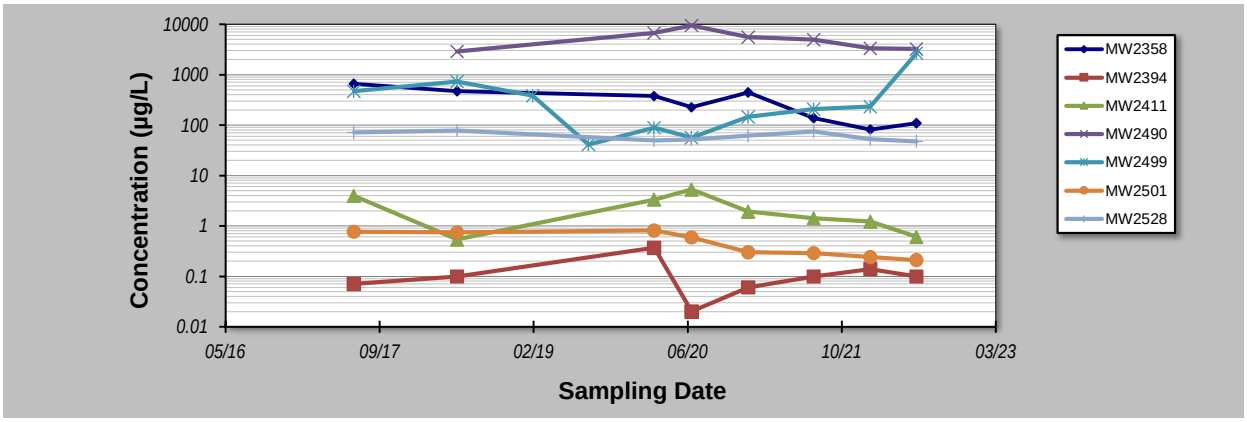
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2358	MW2394	MW2411	MW2490	MW2499	MW2501	MW2528
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17	660	0.07	3.97		469	0.77	71
2	Mar-18							
3	Jun-18	470	0.1	0.54	2900	729	0.75	78
4	Feb-19					380		
5	Aug-19					41.2		
6	Nov-19							
7	Feb-20							
8	Mar-20	376	0.37	3.32	6670	88.6	0.81	49.8
9	Jul-20	226	0.02	5.29	9460	56	0.59	51.5
10	Jan-21	442	0.06	1.92	5540	146	0.3	61.4
11	Aug-21	138	0.1	1.43	4910	206	0.29	75
12	Feb-22	81.6	0.14	1.22	3340	234	0.24	52.4
13	Jul-22	109	0.1	0.6	3240	2680	0.21	47.7
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.66	0.89	0.75	0.46	1.58	0.53	0.20
Mann-Kendall Statistic (S):		-22	5	-12	-7	3	-24	-8
Confidence Factor:		99.8%	68.3%	91.1%	80.9%	56.9%	99.9%	80.1%
Concentration Trend:		Decreasing	No Trend	Prob. Decreasing	Stable	No Trend	Decreasing	Stable



Notes:

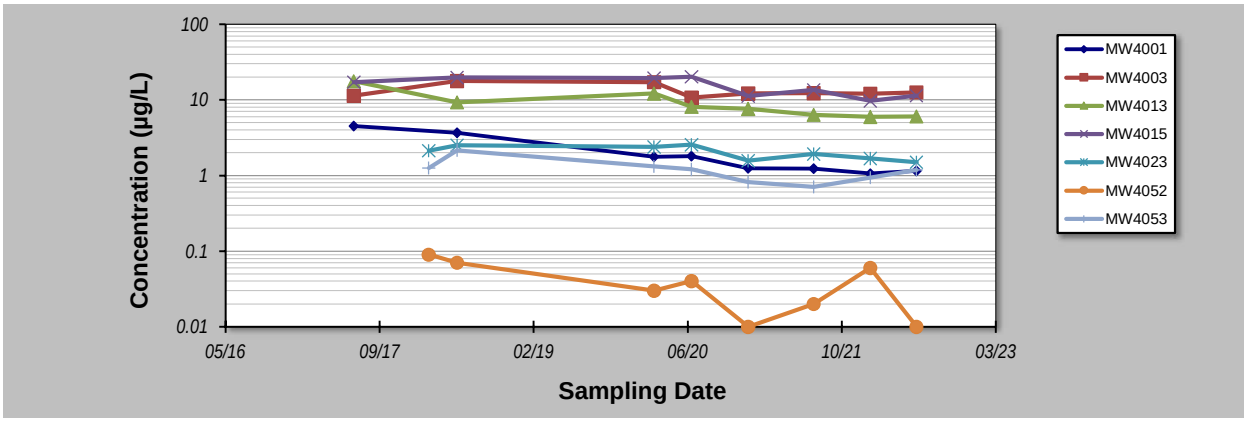
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFHxS+PFOS (Q1 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW4001	MW4003	MW4013	MW4015	MW4023	MW4052	MW4053
Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17	4.5	11.3	17.6	17.1			
2	Mar-18					2.12	0.09	1.26
3	Jun-18	3.67	17.8	9.3	19.8	2.5	0.07	2.15
4	Feb-19							
5	Aug-19							
6	Nov-19							
7	Feb-20							
8	Mar-20	1.77	17.2	12.1	19.4	2.38	0.03	1.32
9	Jul-20	1.8	10.7	8.12	20.2	2.55	0.04	1.21
10	Jan-21	1.24	12.1	7.63	11.2	1.56	0.01	0.82
11	Aug-21	1.23	12.3	6.33	13.5	1.92	0.02	0.71
12	Feb-22	1.06	12	5.95	9.68	1.67	0.06	0.94
13	Jul-22	1.15	12.5	6.05	11.4	1.5	0.01	1.18
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.63	0.20	0.44	0.28	0.21	0.71	0.37
Mann-Kendall Statistic (S):		-24	0	-24	-12	-14	-15	-14
Confidence Factor:		99.9%	45.2%	99.9%	91.1%	94.6%	95.8%	94.6%
Concentration Trend:		Decreasing	Stable	Decreasing	Prob. Decreasing	Prob. Decreasing	Decreasing	Prob. Decreasing



Notes:

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

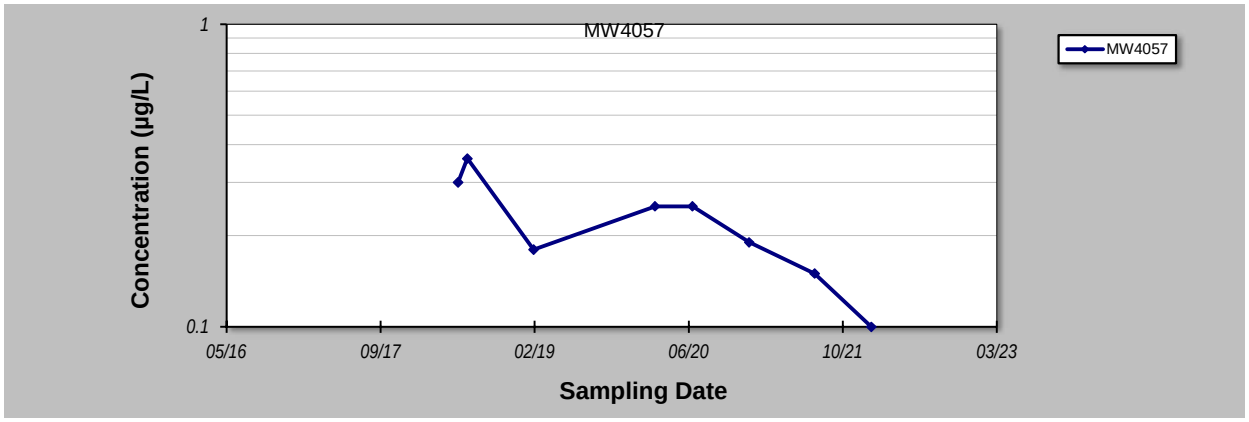
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q1 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: **MW4057**

Sampling Event	Sampling Date	PFHXS+PFOS (Q1 AQUIFER) CONCENTRATION (µg/L)
1	Jun-17	
2	Aug-17	
3	Mar-18	
4	Jun-18	0.3
5	Jul-18	0.36
6	Feb-19	0.18
7	Aug-19	
8	Nov-19	
9	Feb-20	
10	Mar-20	0.25
11	Jul-20	0.25
12	Jan-21	0.19
13	Aug-21	0.15
14	Feb-22	0.1
15	Jul-22	
16		
17		
18		
19		
20		
Coefficient of Variation:		**0.38**
Mann-Kendall Statistic (S):		**-19**
Confidence Factor:		**98.9%**
Concentration Trend:		Decreasing



Notes:

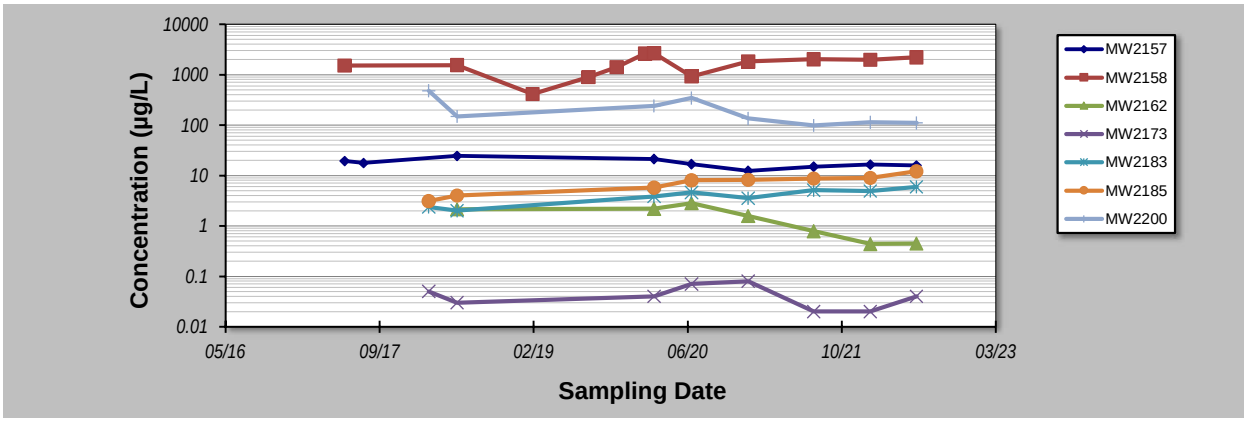
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFHxS+PFOS (Q2 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2157	MW2158	MW2162	MW2173	MW2183	MW2185	MW2200
Sampling Event	Sampling Date	PFHXS+PFOS (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17	19.3	1510					
2	Aug-17	17.7						
3	Mar-18				0.05	2.38	3.1	480
4	Jun-18	24.5	1540	2.15	0.03	2	4	148
5	Jul-18							
6	Feb-19		413					
7	Aug-19		898					
8	Nov-19		1410					
9	Feb-20		2620					
10	Mar-20	21.2	2650	2.18	0.04	3.84	5.73	241
11	Jul-20	16.7	924	2.83	0.07	4.63	8.05	343
12	Jan-21	12.3	1820	1.58	0.08	3.55	8.23	135
13	Aug-21	15	2020	0.79	0.02	5.13	8.68	98.1
14	Feb-22	16.5	1979	0.44	0.02	4.93	9.03	114
15	Jul-22	15.8	2210	0.45	0.04	5.98	12.1	110
16								
17								
18								
19								
20								
Coefficient of Variation:		0.20	0.41	0.64	0.50	0.34	0.40	0.66
Mann-Kendall Statistic (S):		-18	26	-13	-4	20	28	-18
Confidence Factor:		96.2%	95.7%	96.5%	64.0%	99.3%	>99.9%	98.4%
Concentration Trend:		Decreasing	Increasing	Decreasing	Stable	Increasing	Increasing	Decreasing



Notes:

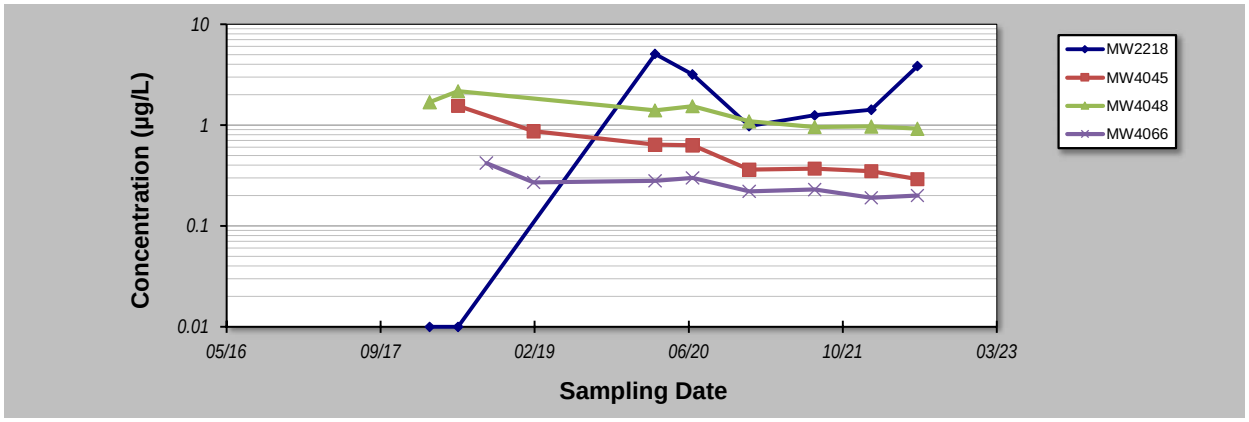
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFHxS+PFOS (Q2 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2218	MW4045	MW4048	MW4066			
Sampling Event	Sampling Date	PFHXS+PFOS (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17							
2	Aug-17							
3	Mar-18	0.01		1.69				
4	Sep-18				0.42			
5	Jun-18	0.01	1.55	2.17				
6	Feb-19		0.87		0.27			
7	Aug-19							
8	Nov-19							
9	Feb-20							
10	Mar-20	5.08	0.64	1.4	0.28			
11	Jul-20	3.18	0.63	1.54	0.3			
12	Jan-21	0.98	0.36	1.09	0.22			
13	Aug-21	1.25	0.37	0.96	0.23			
14	Feb-22	1.42	0.35	0.97	0.19			
15	Jul-22	3.86	0.29	0.92	0.2			
16								
17								
18								
19								
20								
Coefficient of Variation:		0.94	0.67	0.33	0.28			
Mann-Kendall Statistic (S):		11	-26	-22	-18			
Confidence Factor:		88.7%	100.0%	99.8%	98.4%			
Concentration Trend:		No Trend	Decreasing	Decreasing	Decreasing			



Notes:

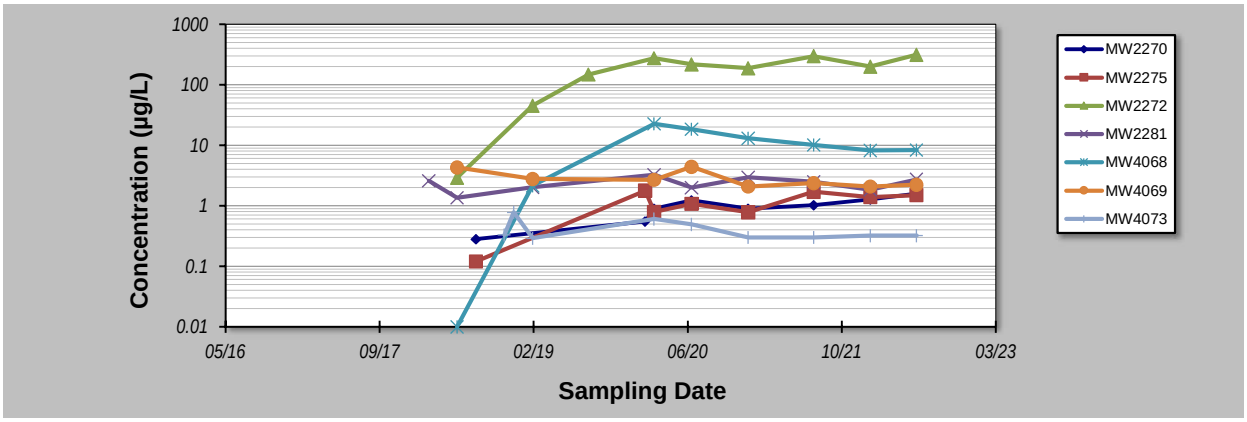
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q3 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID:	MW2270	MW2275	MW2272	MW2281	MW4068	MW4069	MW4073
Sampling Event	Sampling Date	PFHXS+PFOS (Q3 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17							
2	Mar-18				2.6			
3	Jun-18			2.9	1.36	0.01	4.3	
4	Aug-18	0.28	0.12					
5	Nov-18							0.33
6	Dec-18							0.78
7	Feb-19			45	2.03	2.14	2.77	0.29
8	Aug-19			147				
9	Nov-19							
10	Feb-20	0.55	1.78					
11	Mar-20	0.89	0.79	276	3.25	22.5	2.68	0.6
12	Jul-20	1.22	1.08	217	1.99	18.4	4.41	0.49
13	Jan-21	0.89	0.78	187	2.94	13	2.08	0.3
14	Aug-21	1.02	1.7	297	2.48	10.1	2.35	0.3
15	Feb-22	1.28	1.39	198	1.84	8.19	2.07	0.32
16	Jul-22	1.59	1.5	312	2.72	8.3	2.23	0.32
17								
18								
19								
20								
Coefficient of Variation:		0.43	0.49	0.57	0.25	0.73	0.33	0.42
Mann-Kendall Statistic (S):		23	8	24	2	0	-16	-8
Confidence Factor:		99.9%	80.1%	99.4%	54.0%	45.2%	96.9%	76.2%
Concentration Trend:		Increasing	No Trend	Increasing	No Trend	Stable	Decreasing	Stable



Notes:

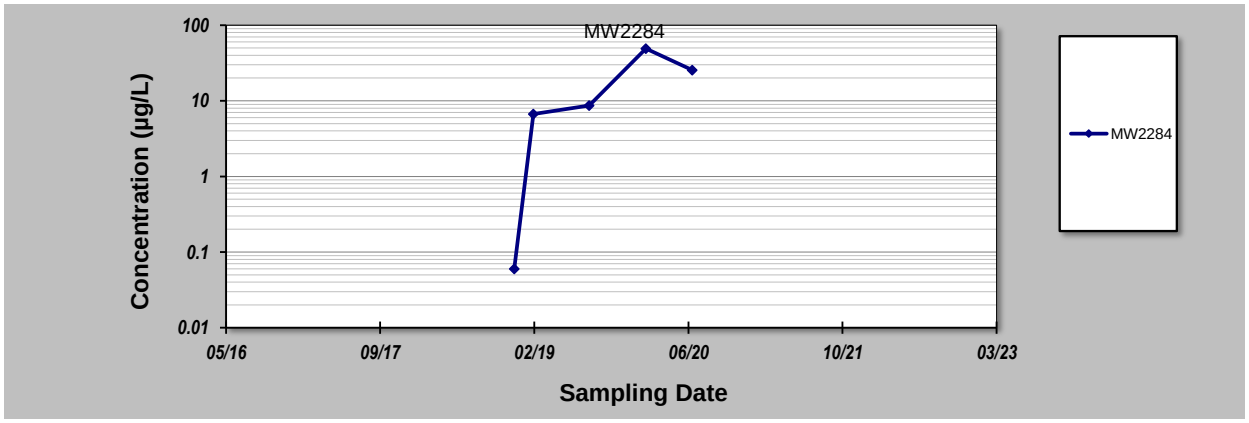
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	19-Oct-23	Job ID:	60612561
Facility Name:	RAAF Base Edinburgh	Constituent:	PFHxS+PFOS (Q3 aquifer)
Conducted By:	[redacted]	Concentration Units:	µg/L

Sampling Point ID:	MW2284						

Sampling Event	Sampling Date	PFHXS+PFOS (Q3 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17							
2	Mar-18							
3	Jun-18							
4	Aug-18							
5	Nov-18							
6	Dec-18	0.06						
7	Feb-19	6.7						
8	Aug-19	8.69						
9	Nov-19							
10	Feb-20	49.1						
11	Mar-20							
12	Jul-20	25.4						
13	Jan-21	43.0						
14	Aug-21	62.3						
15	Feb-22	51.8						
16	Jul-22	63.7						
17								
18								
19								
20								
Coefficient of Variation:		1.10						
Mann-Kendall Statistic (S):		32						
Confidence Factor:		100.0%						
Concentration Trend:		Increasing						



Notes:

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

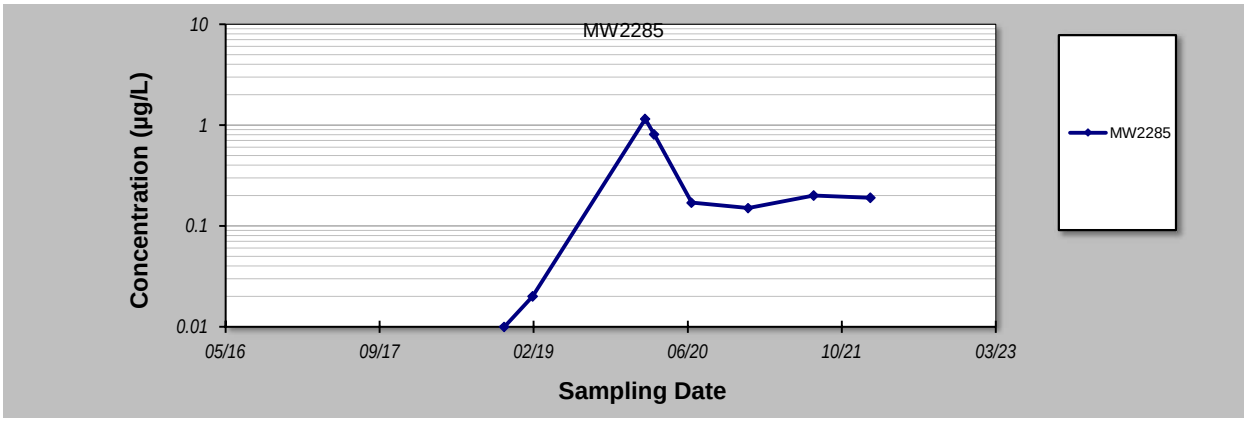
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFHxS+PFOS (Q4 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: **MW2285**

Sampling Event	Sampling Date	PFHXS+PFOS (Q4 AQUIFER) CONCENTRATION (µg/L)
1	Jun-17	
2	Mar-18	
3	Jun-18	
4	Aug-18	
5	Nov-18	0.01
6	Dec-18	
7	Feb-19	0.02
8	Aug-19	
9	Nov-19	
10	Feb-20	1.15
11	Mar-20	0.81
12	Jul-20	0.17
13	Jan-21	0.15
14	Aug-21	0.2
15	Feb-22	0.19
16	Jul-22	
17		
18		
19		
20		
Coefficient of Variation:		1.22
Mann-Kendall Statistic (S):		6
Confidence Factor:		72.6%
Concentration Trend:		No Trend



Notes:

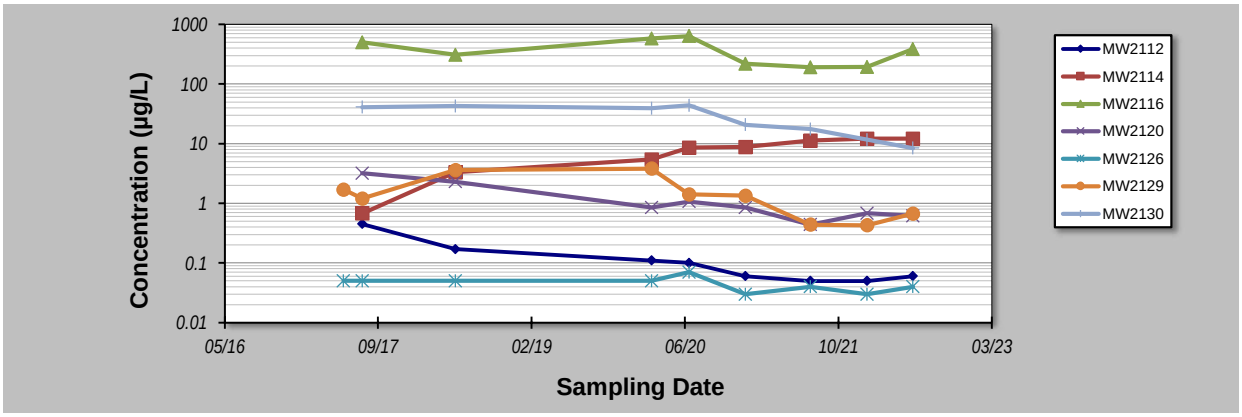
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFOA (Q1 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2112	MW2114	MW2116	MW2120	MW2126	MW2129	MW2130
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17					0.05	1.7	
2	Aug-17	0.45	0.68	500	3.2	0.05	1.2	41
3	Jun-18	0.17	3.3	310	2.3	0.05	3.6	43
4	Mar-20	0.11	5.44	582	0.85	0.05	3.82	39.3
5	Jul-20	0.1	8.56	638	1.07	0.07	1.41	44.1
6	Jan-21	0.06	8.78	219	0.85	0.03	1.35	20.8
7	Aug-21	0.05	11.3	192	0.44	0.04	0.44	17.6
8	Feb-22	0.05	12.2	194	0.68	0.03	0.43	11.7
9	Jul-22	0.06	12.2	385	0.62	0.04	0.67	8.45
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.03	0.55	0.47	0.78	0.27	0.78	0.53
Mann-Kendall Statistic (S):		-22	27	-8	-21	-14	-18	-20
Confidence Factor:		99.8%	>99.9%	80.1%	99.6%	91.0%	96.2%	99.3%
Concentration Trend:		Decreasing	Increasing	Stable	Decreasing	Prob. Decreasing	Decreasing	Decreasing



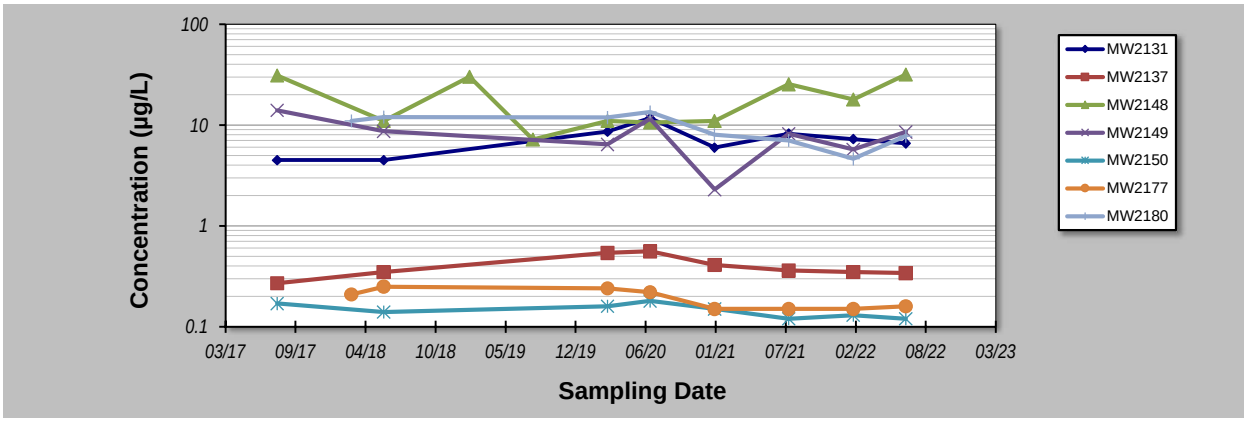
Notes:

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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-22	Job ID:	60612561
Facility Name:	RAAF Base Edinburgh	Constituent:	PFOA (Q1 aquifer)
Conducted By:	[redacted]	Concentration Units:	µg/L

Sampling Point ID:	MW2131	MW2137	MW2148	MW2149	MW2150	MW2177	MW2180
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-17	4.5	0.27	31	14	0.17		
2	Mar-18						0.21	11
3	Jun-18	4.5	0.35	11	8.7	0.14	0.25	12
4	Feb-19			30.1				
5	Aug-19			7.18				
6	Nov-19							
7	Feb-20							
8	Mar-20	8.6	0.54	11	6.42	0.16	0.24	11.9
9	Jul-20	11.7	0.56	10.6	11.6	0.18	0.22	13.5
10	Jan-21	5.97	0.41	11	2.3	0.15	0.15	8.01
11	Aug-21	8.21	0.36	25.4	8.23	0.12	0.15	7.05
12	Feb-22	7.26	0.35	18	5.73	0.13	0.15	4.64
13	Jul-22	6.59	0.34	31.8	8.58	0.12	0.16	7.77
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.33	0.26	0.53	0.44	0.15	0.23	0.32
Mann-Kendall Statistic (S):		5	-3	6	-10	-15	-13	-14
Confidence Factor:		68.3%	59.4%	66.8%	86.2%	95.8%	92.9%	94.6%
Concentration Trend:		No Trend	Stable	No Trend	Stable	Decreasing	Prob. Decreasing	Prob. Decreasing



Notes:

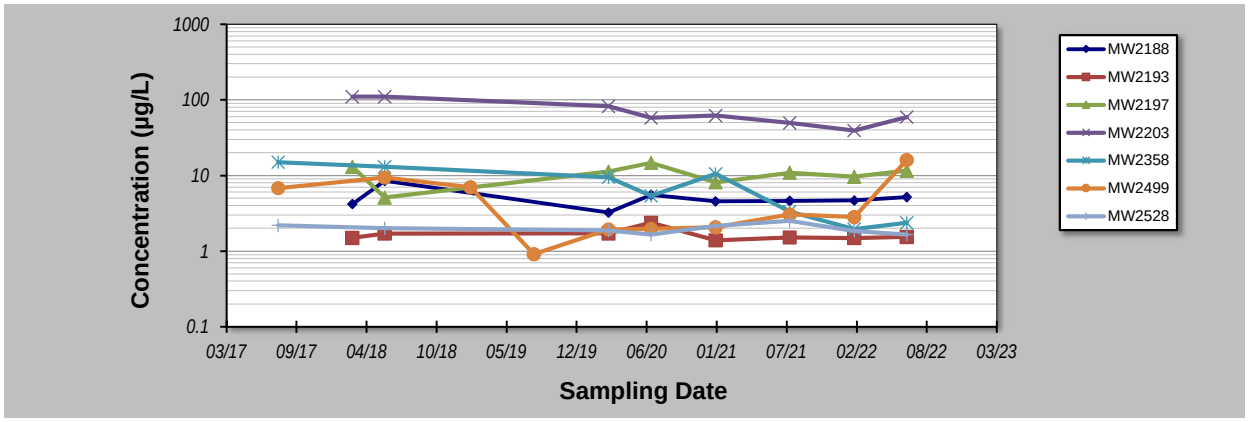
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFOA (Q1 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2188	MW2193	MW2197	MW2203	MW2358	MW2499	MW2528
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Aug-17					15	6.8	2.2
2	Mar-18	4.2	1.5	13	110			
3	Jun-18	8.5	1.7	5.1	110	13	9.4	2
4	Feb-19						7	
5	Aug-19						0.91	
6	Nov-19							
7	Feb-20							
8	Mar-20	3.23	1.72	11.3	82	9.49	1.94	1.88
9	Jul-20	5.56	2.38	14.7	58	5.4	1.96	1.65
10	Jan-21	4.55	1.39	8.11	62	10.5	2.06	2.15
11	Aug-21	4.62	1.52	10.9	49.6	3.35	3.05	2.52
12	Feb-22	4.66	1.49	9.66	39.2	1.95	2.82	1.85
13	Jul-22	5.17	1.54	11.6	59.2	2.37	16.1	1.66
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.31	0.19	0.28	0.38	0.66	0.91	0.15
Mann-Kendall Statistic (S):		6	-2	0	-19	-22	5	-8
Confidence Factor:		72.6%	54.8%	45.2%	98.9%	99.8%	63.6%	80.1%
Concentration Trend:		No Trend	Stable	Stable	Decreasing	Decreasing	No Trend	Stable



Notes:

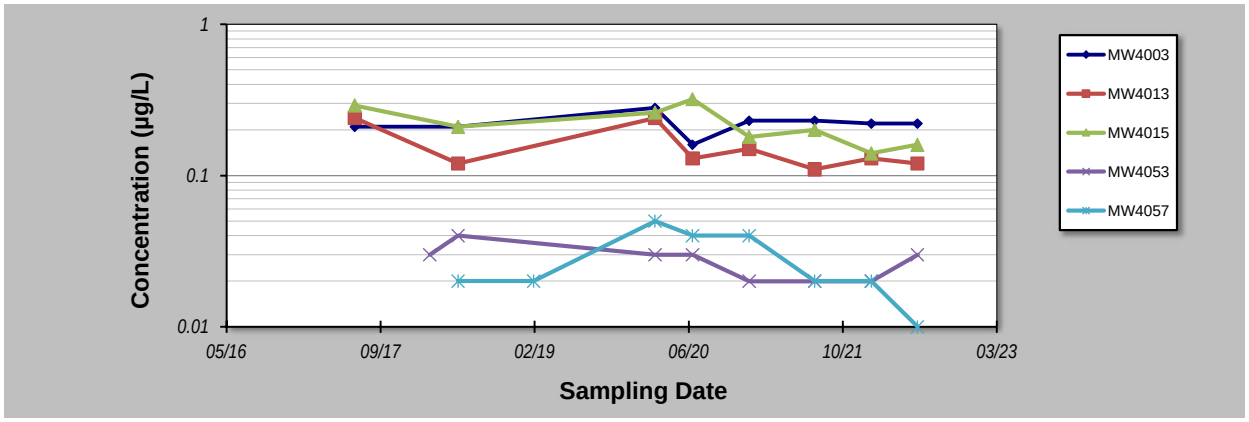
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFOA (Q1 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW4003	MW4013	MW4015	MW4053	MW4057		
Sampling Event	Sampling Date	PFOA (Q1 AQUIFER) CONCENTRATION (µg/L)						
1	Jul-17	0.21	0.24	0.29				
2	Mar-18				0.03			
3	Jun-18	0.21	0.12	0.21	0.04	0.02		
4	Feb-19					0.02		
5	Aug-19							
6	Nov-19							
7	Feb-20							
8	Mar-20	0.28	0.24	0.26	0.03	0.05		
9	Jul-20	0.16	0.13	0.32	0.03	0.04		
10	Jan-21	0.23	0.15	0.18	0.02	0.04		
11	Aug-21	0.23	0.11	0.2	0.02	0.02		
12	Feb-22	0.22	0.13	0.14	0.02	0.02		
13	Jul-22	0.22	0.12	0.16	0.03	0.01		
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.15	0.35	0.29	0.26	0.50		
Mann-Kendall Statistic (S):		3	-11	-16	-11	-9		
Confidence Factor:		59.4%	88.7%	96.9%	88.7%	83.2%		
Concentration Trend:		No Trend	Stable	Decreasing	Stable	Stable		



Notes:

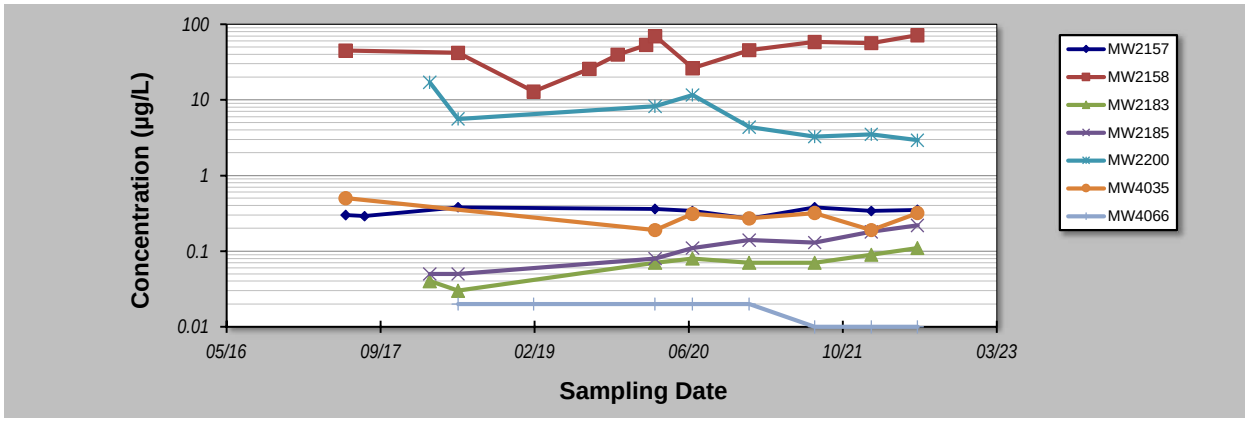
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 14-Nov-22
Facility Name: RAAF Base Edinburgh
Conducted By: [redacted]

Job ID: 60612561
Constituent: PFOA (Q2 aquifer)
Concentration Units: µg/L

Sampling Point ID:	MW2157	MW2158	MW2183	MW2185	MW2200	MW4035	MW4066
Sampling Event	Sampling Date	PFOA (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Jun-17	0.3	45				0.5	
2	Aug-17	0.29						
3	Mar-18			0.04	0.05	17		
4	Jun-18	0.38	42	0.03	0.05	5.6		0.02
5	Nov-18							
6	Dec-18							
7	Feb-19		12.9					0.02
8	Aug-19		25.7					
9	Nov-19		39.6					
10	Feb-20		53.4					
11	Mar-20	0.36	69.4	0.07	0.08	8.23	0.19	0.02
12	Jul-20	0.34	26.2	0.08	0.11	11.6	0.31	0.02
13	Jan-21	0.27	45.6	0.07	0.14	4.34	0.27	0.02
14	Aug-21	0.38	58.2	0.07	0.13	3.27	0.32	0.01
15	Feb-22	0.34	56.2	0.09	0.18	3.49	0.19	0.01
16	Jul-22	0.35	71.6	0.11	0.22	2.94	0.32	0.01
17								
18								
19								
20								
Coefficient of Variation:		0.12	0.39	0.37	0.50	0.71	0.35	0.32
Mann-Kendall Statistic (S):		4	32	19	25	-20	-1	-15
Confidence Factor:		61.9%	98.4%	98.9%	100.0%	99.3%	50.0%	95.8%
Concentration Trend:		No Trend	Increasing	Increasing	Increasing	Decreasing	Stable	Decreasing



Notes:

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

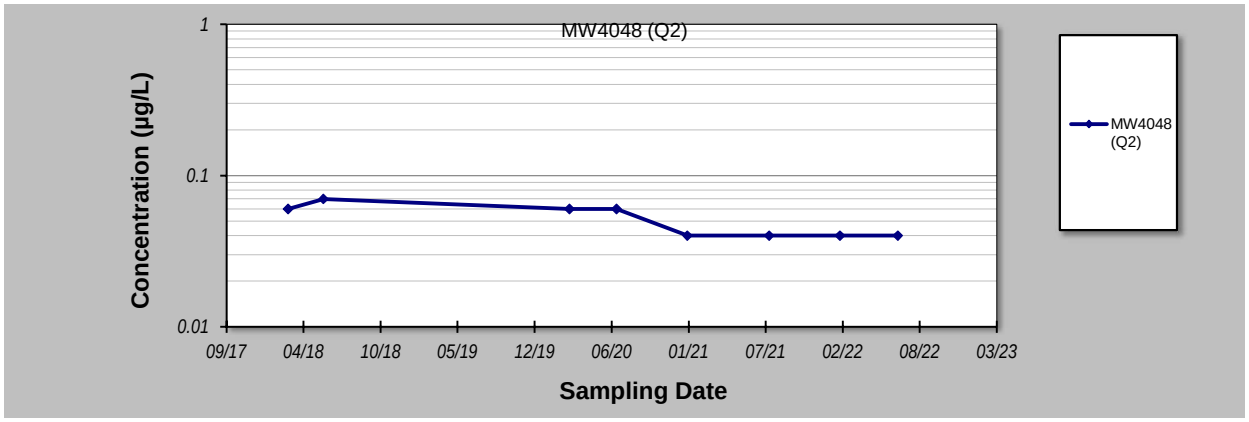
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **14-Nov-22**
Facility Name: **RAAF Base Edinburgh**
Conducted By: [redacted]

Job ID: **60612561**
Constituent: **PFOA (Q2 aquifer)**
Concentration Units: **µg/L**

Sampling Point ID: **MW4048 (Q2)**

Sampling Event	Sampling Date	PFOA (Q2 AQUIFER) CONCENTRATION (µg/L)						
1	Mar-18	0.06						
2	Jun-18	0.07						
3	Mar-20	0.06						
4	Jul-20	0.06						
5	Jan-21	0.04						
6	Aug-21	0.04						
7	Feb-22	0.04						
8	Jul-22	0.04						
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.24						
Mann-Kendall Statistic (S):		-17						
Confidence Factor:		97.7%						
Concentration Trend:		Decreasing						



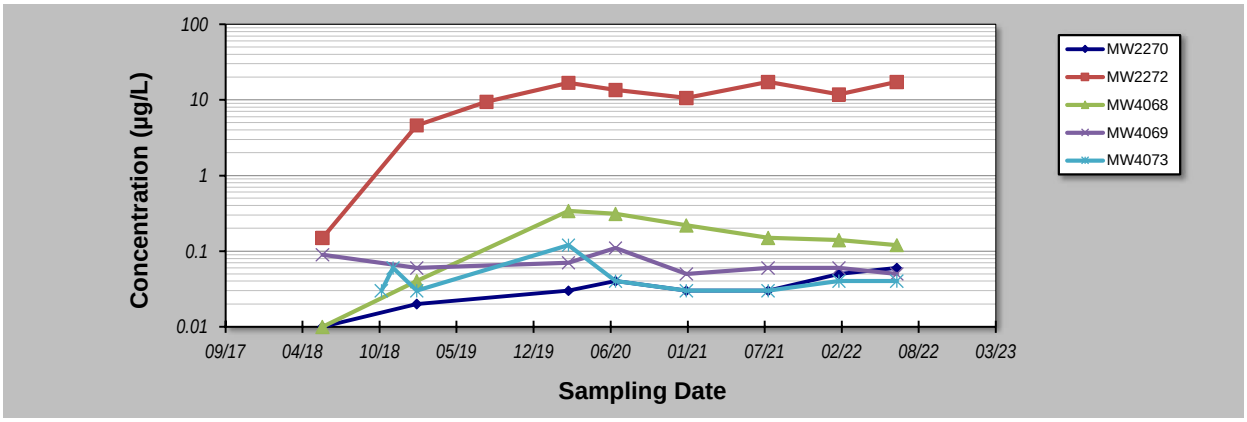
Notes:

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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-22	Job ID:	60612561
Facility Name:	RAAF Base Edinburgh	Constituent:	PFOA (Q3 aquifer)
Conducted By:	[redacted]	Concentration Units:	µg/L

Sampling Point ID:	MW2270	MW2272	MW4068	MW4069	MW4073		
Sampling Event	Sampling Date	PFOA (Q3 AQUIFER) CONCENTRATION (µg/L)						
1	Mar-18							
2	Jun-18	0.01	0.15	0.01	0.09			
3	Nov-18					0.03		
4	Dec-18					0.06		
5	Feb-19	0.02	4.6	0.04	0.06	0.03		
6	Aug-19		9.44					
7	Nov-19							
8	Feb-20							
9	Mar-20	0.03	16.8	0.34	0.07	0.12		
10	Jul-20	0.04	13.5	0.31	0.11	0.04		
11	Jan-21	0.03	10.6	0.22	0.05	0.03		
12	Aug-21	0.03	17.3	0.15	0.06	0.03		
13	Feb-22	0.05	11.8	0.14	0.06	0.04		
14	Jul-22	0.06	17.3	0.12	0.05	0.04		
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.47	0.53	0.71	0.31	0.62		
Mann-Kendall Statistic (S):		21	23	-2	-12	1		
Confidence Factor:		99.6%	99.1%	54.8%	91.1%	50.0%		
Concentration Trend:		Increasing	Increasing	Stable	Prob. Decreasing	No Trend		



Notes:

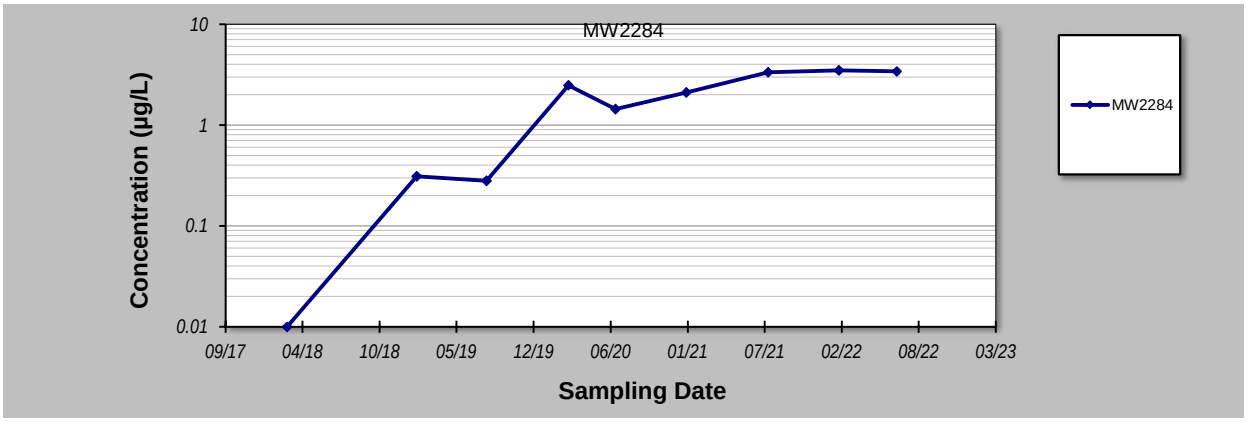
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Nov-22	Job ID:	60612561
Facility Name:	RAAF Base Edinburgh	Constituent:	PFOA (Q4 aquifer)
Conducted By:	[redacted]	Concentration Units:	µg/L

Sampling Point ID: **MW2284**

Sampling Event	Sampling Date	PFOA (Q4 AQUIFER) CONCENTRATION (µg/L)
1	Mar-18	0.01
2	Jun-18	
3	Nov-18	
4	Dec-18	
5	Feb-19	0.31
6	Aug-19	0.28
7	Nov-19	
8	Feb-20	
9	Mar-20	2.48
10	Jul-20	1.44
11	Jan-21	2.11
12	Aug-21	3.34
13	Feb-22	3.5
14	Jul-22	3.41
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.76
Mann-Kendall Statistic (S):		28
Confidence Factor:		99.9%
Concentration Trend:		Increasing

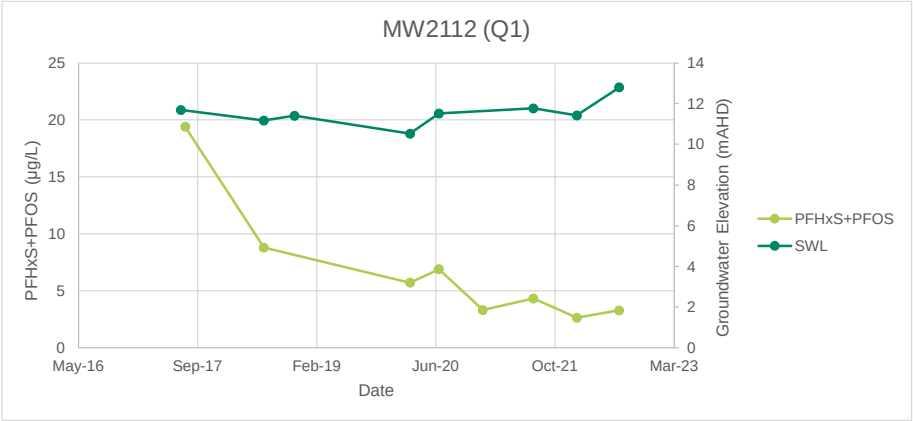


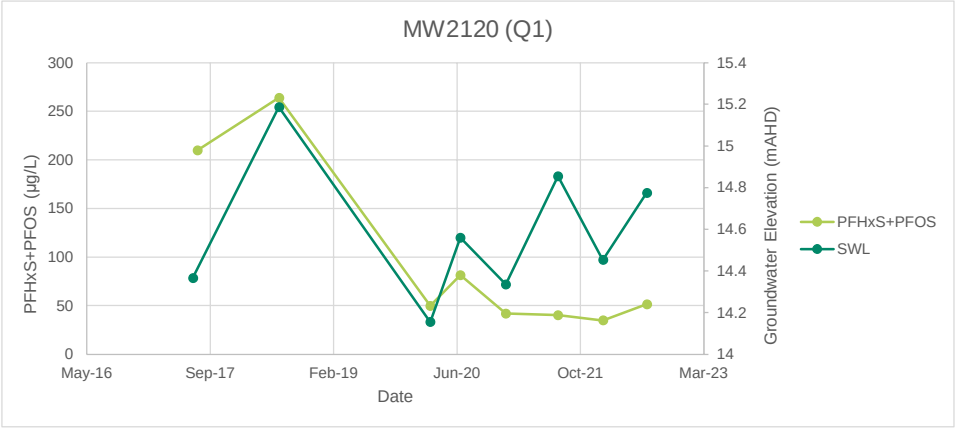
Notes:

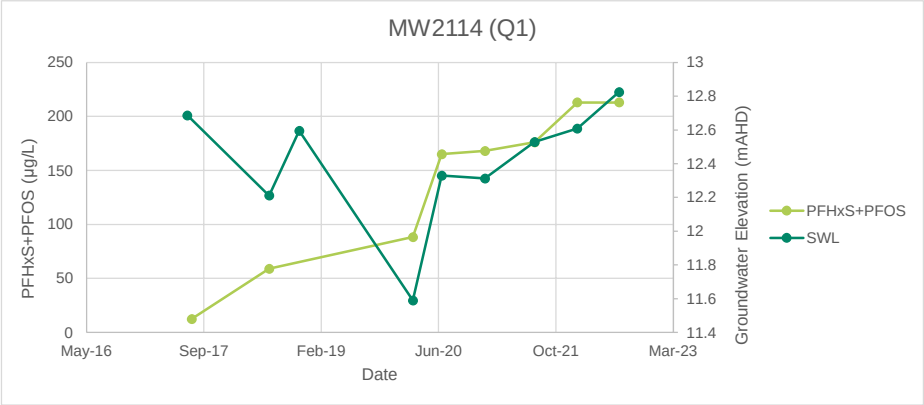
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably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

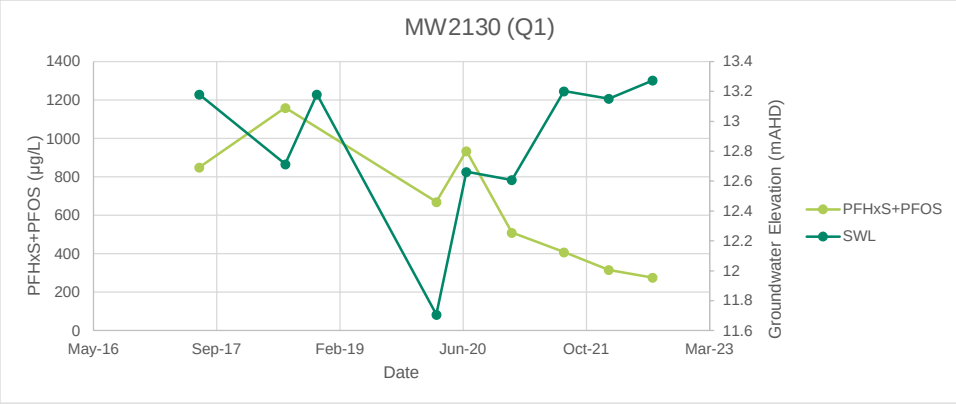
Appendix F

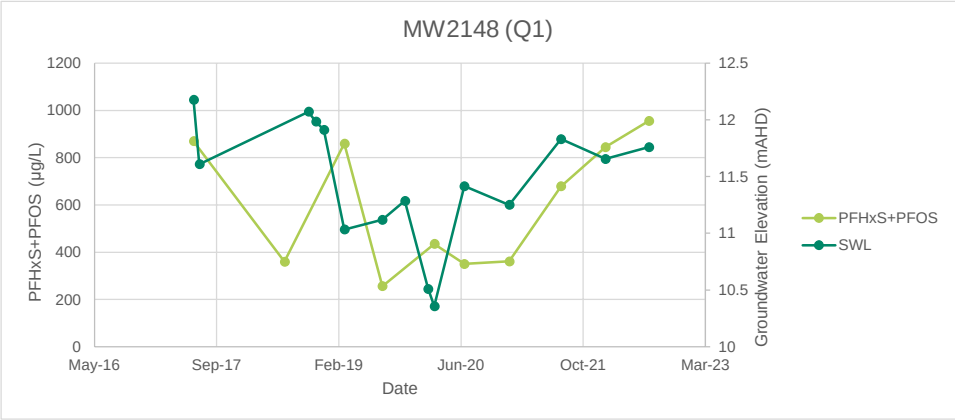
Groundwater Elevations and PFAS Concentrations

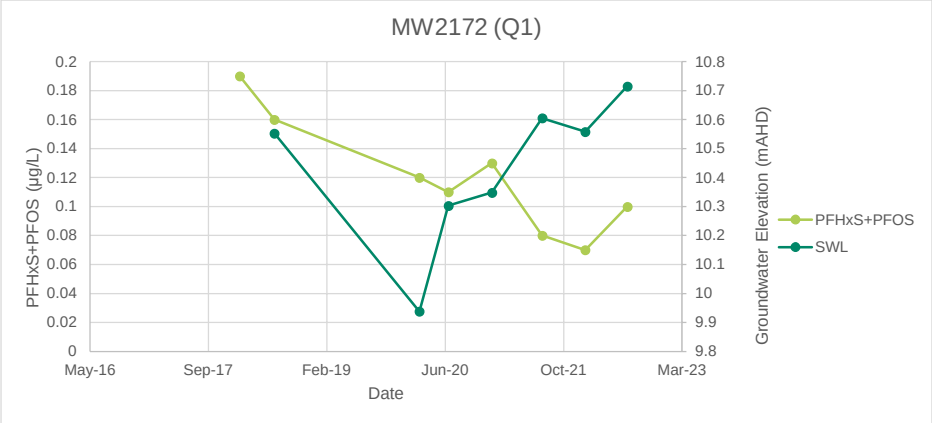

MW2112 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

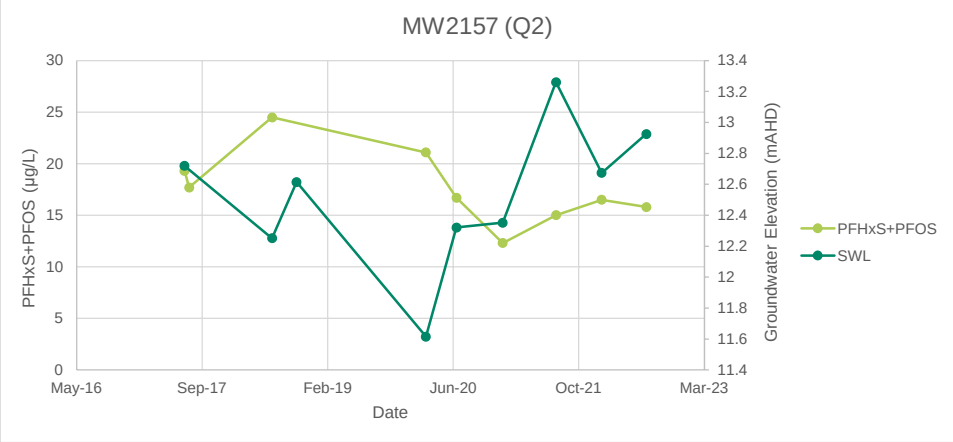

MW2120 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

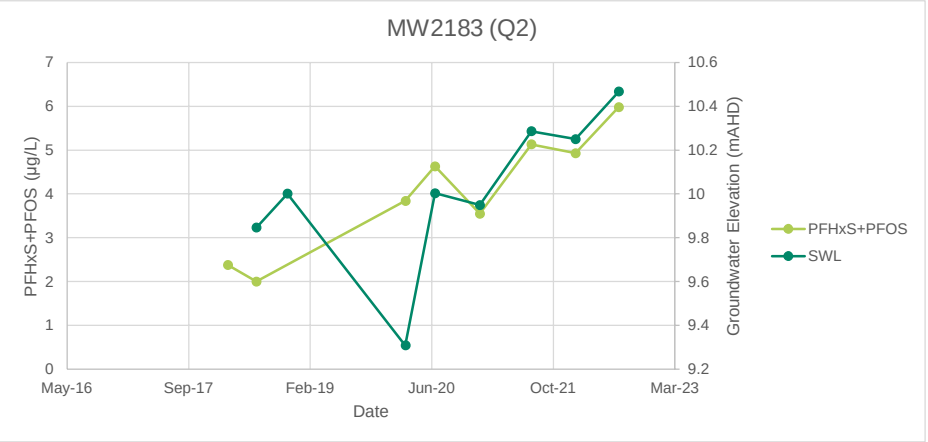

MW2114 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

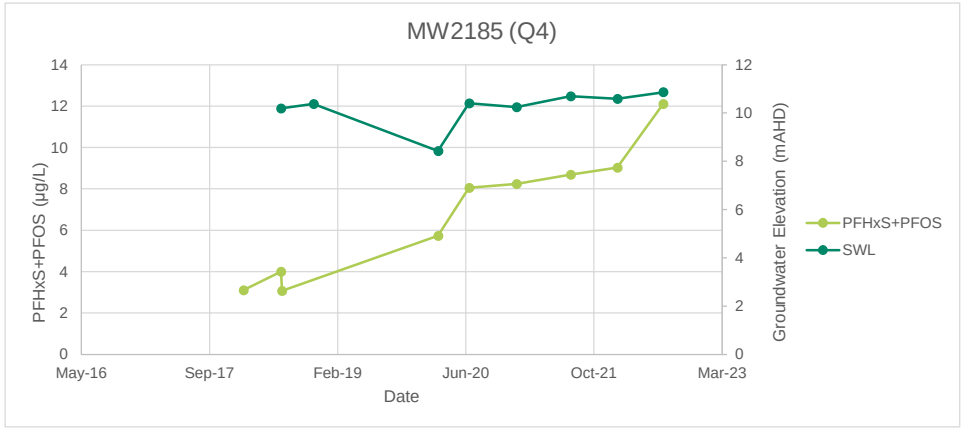

MW2130 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

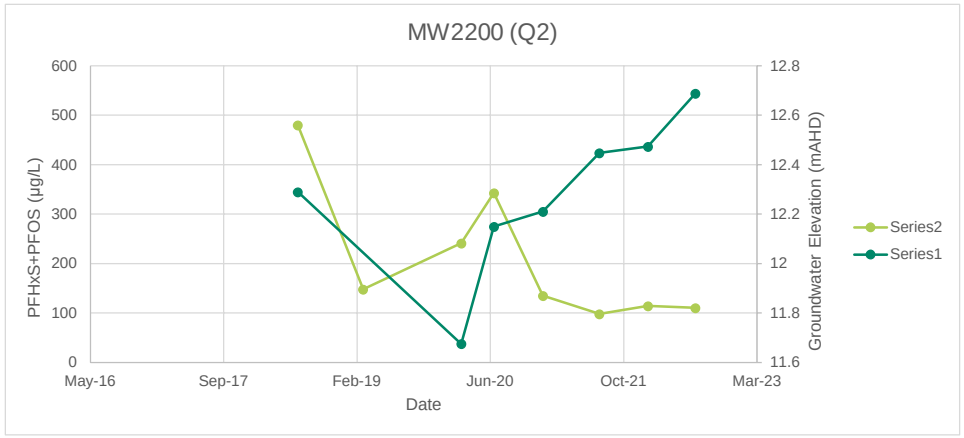

MW2148 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

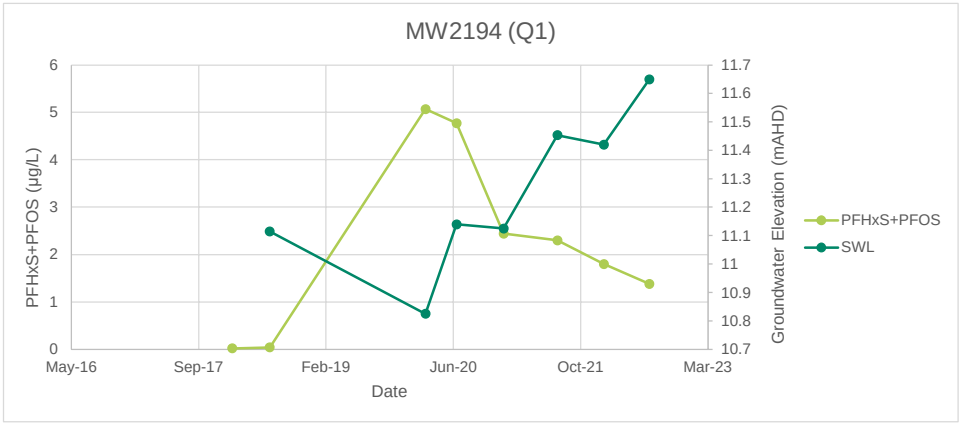

MW2172 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

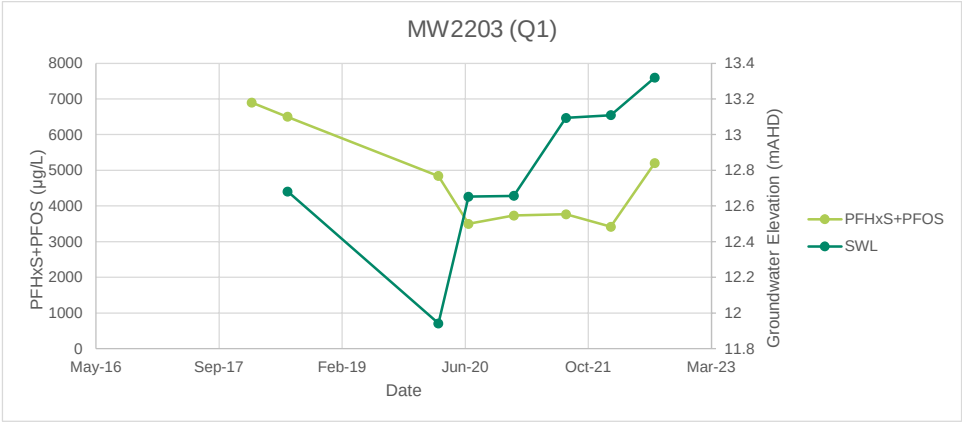

MW2157 (Q2)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

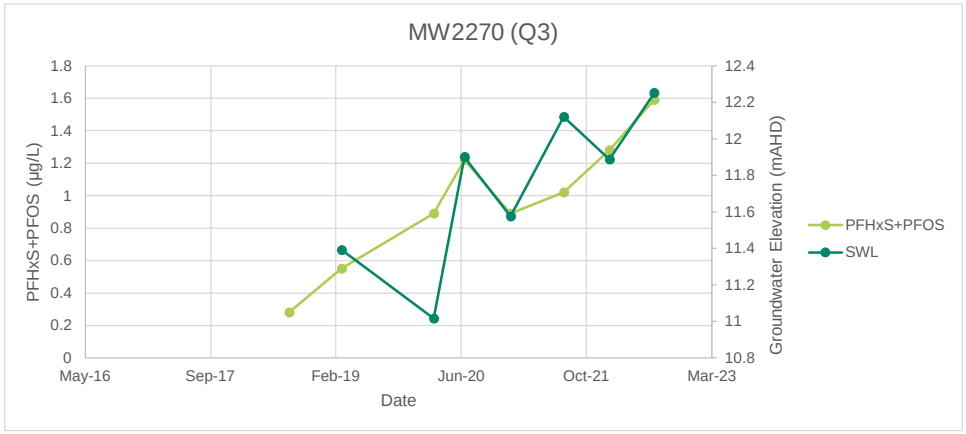

MW2183 (Q2)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

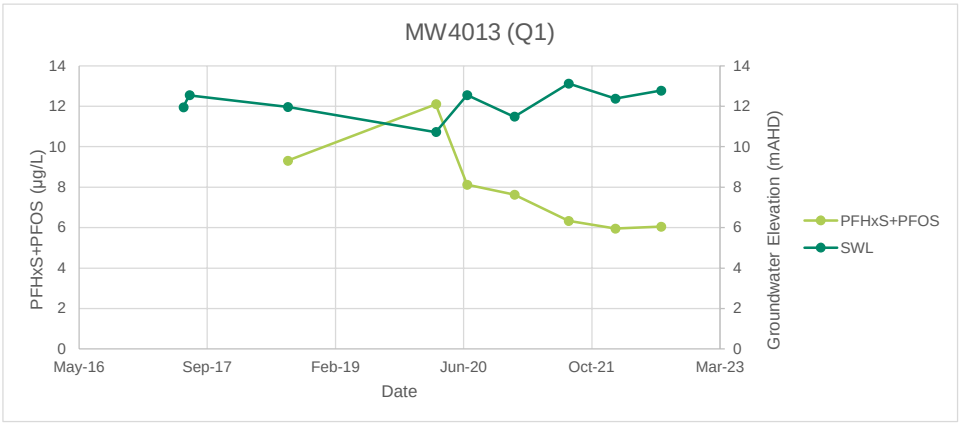

MW2185 (Q4)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

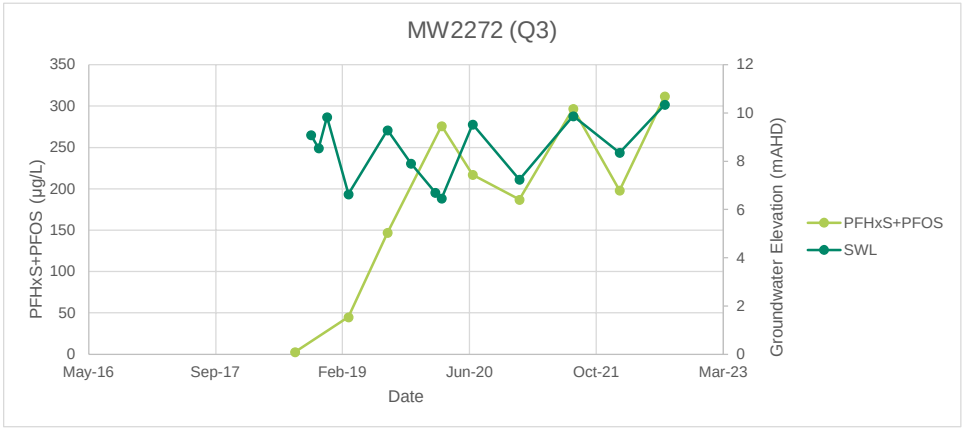

MW2200 (Q2)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
Series2
Series1

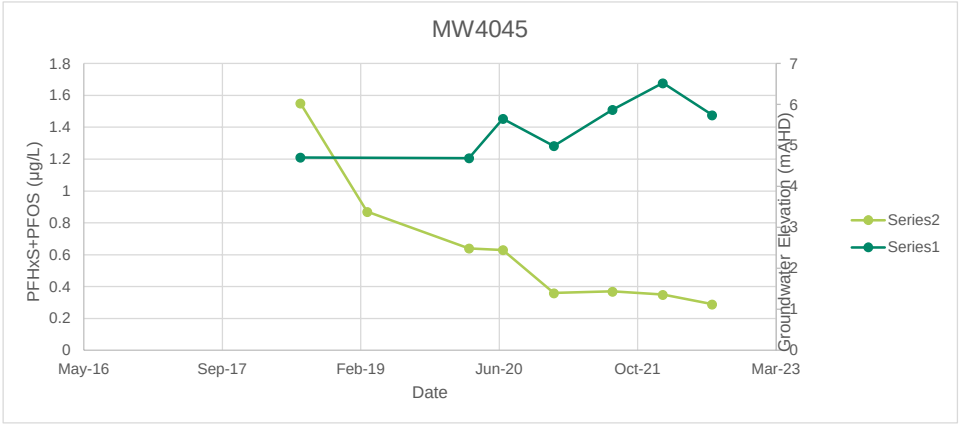

MW2194 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

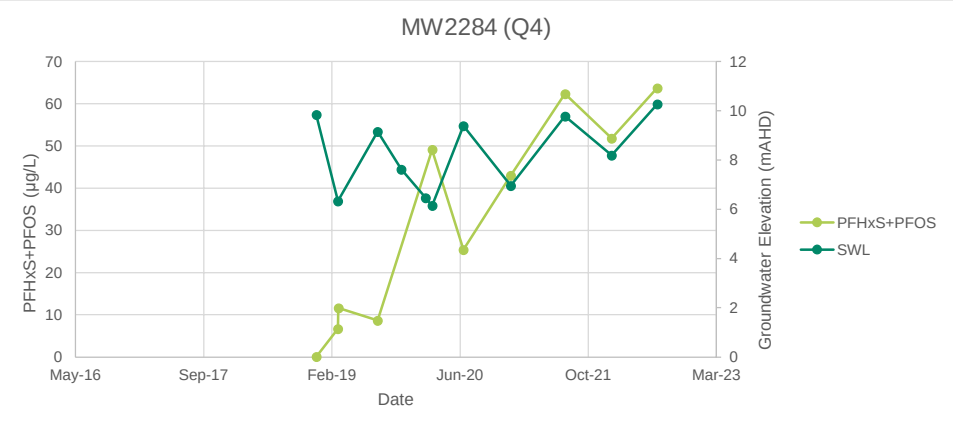

MW2203 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

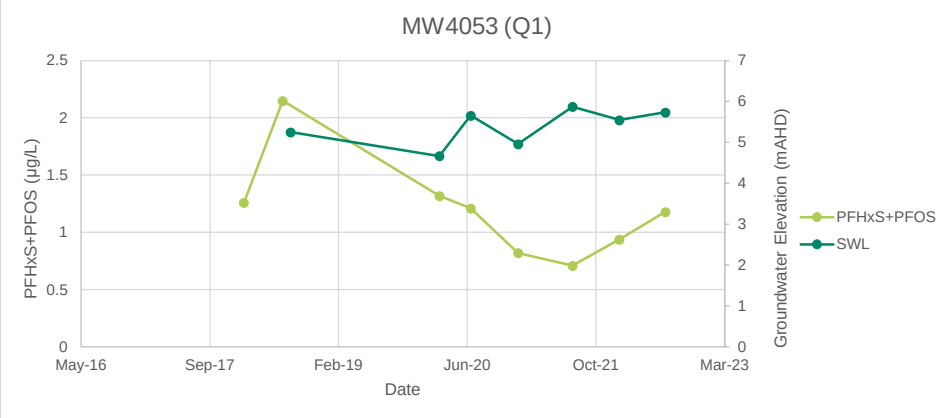

MW2270 (Q3)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

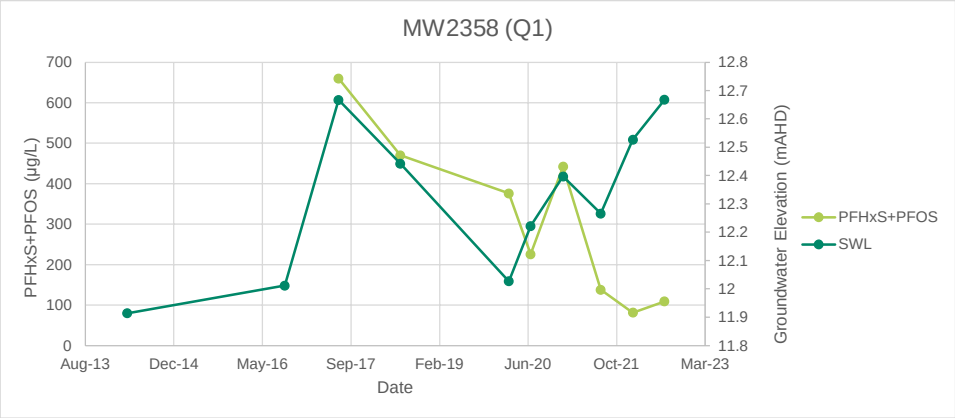

MW4013 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

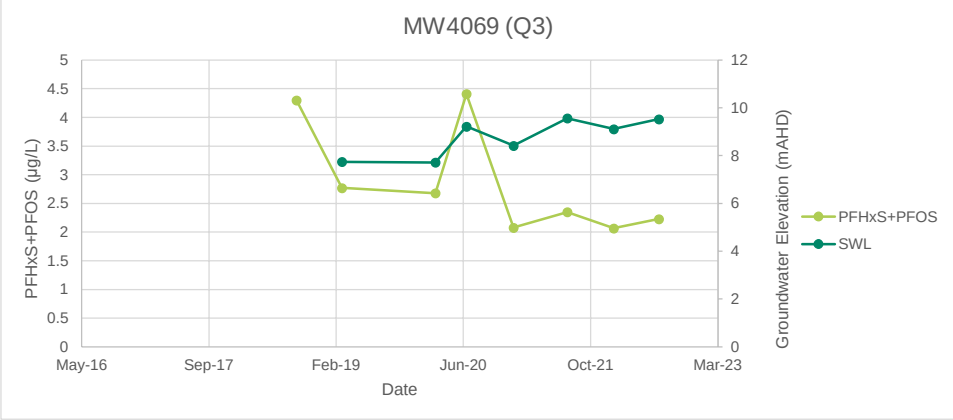

MW2272 (Q3)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL

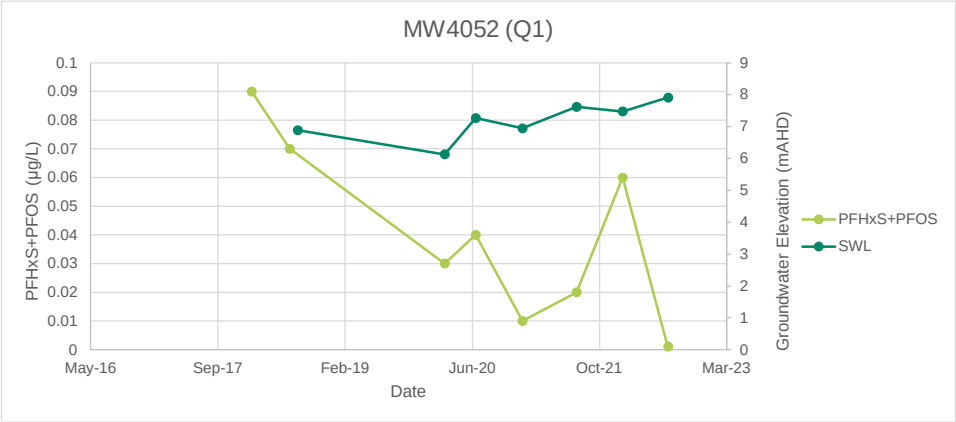

MW4045
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
Series2
Series1

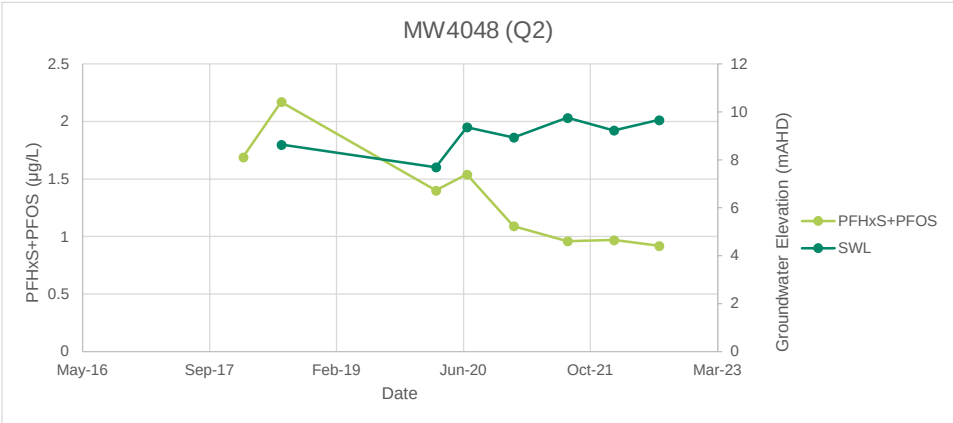

MW2284 (Q4)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL


MW4053 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL


MW2358 (Q1)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL


MW4069 (Q3)
PFHxS+PFOS (µg/L)
Groundwater Elevation (mAHD)
Date
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
PFHxS+PFOS
SWL


MW4052 (Q1)
PFHxS+PFOS (µg/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
Date
Groundwater Elevation (mAHD)
9
8
7
6
5
4
3
2
1
0
PFHxS+PFOS
SWL


MW4048 (Q2)
PFHxS+PFOS (µg/L)
2.5
2
1.5
1
0.5
0
May-16
Sep-17
Feb-19
Jun-20
Oct-21
Mar-23
Date
Groundwater Elevation (mAHD)
12
10
8
6
4
2
0
PFHxS+PFOS
SWL

Appendix G

Registered Groundwater Bore Search

Registered Groundwater Bore Search Results Summary

Registered bores in the vicinity of MW4068

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
0	**WNW**	6628-29832	-	WW	-	45	31/08/2018	INV	-	-	-	-	-	-	-	-	138.612573	-34.72623	-	-	-
20	**WNW**	6628-29807	-	WW	-	22.5	5/07/2018	INV	-	-	-	-	-	-	-	-	138.612448	-34.72618	-	-	-
30	**NNW**	6628-29101	-	WW	-	7	17/05/2017	INV	-	-	6.5	-	17/05/2017	-	-	-	138.612541	-34.72602	-	-	-
70	**WNW**	6628-31246	-	WW	-	101	16/04/2021	IRR	-	-	12	-	16/04/2021	652	-	10	138.611824	-34.72605	F107269	A1	CT 6007 23
150	**SSE**	6628-3015	-	WW	Qpah	22.86	-	-	ABD	-	-	-	-	-	-	-	138.612976	-34.72761	F113429	A45	CT 5972 488
180	**ESE**	6628-29064	-	WW	-	8	18/05/2011	INV	-	-	4	-	18/05/2011	-	-	-	138.614362	-34.72702	D74704	Q301	CT 6010 430
240	**NW**	6628-22565	-	WW	Tomw(T1)	110	25/03/2005	IRR	OPR	28/02/2006	12.4	2.31	25/03/2005	684	-	15	138.610926	-34.72455	D81619	A24	CT 6052 405
300	**SE**	6628-3021	-	WW	Qpah	45.72	2/12/1947	IRR	OPR	3/01/1963	-	-	-	2175	-	7.58	138.615286	-34.72777	D74704	A302	CT 6010 431
310	**E**	6628-3050	-	WW	Qpah	51.21	3/02/1956	IRR	OPR	3/02/1956	-	-	-	6037	-	-	138.615974	-34.72587	D68816	Q153	CT 5962 340
330	**S**	6628-3011	-	WW	Qpah(Q1)	9.14	4/05/1948	-	NL	-	1.83	12.17	4/05/1948	644	-	1.26	138.61221	-34.7292	F113421	A37	CT 5942 459
330	**WNW**	6628-3033	-	WW	Qpah	60.96	4/02/1955	IRR	OPR	4/02/1955	1.52	12.48	4/02/1955	4704	-	-	138.609534	-34.72468	-	-	-
340	**S**	6628-3016	-	WW	Qpah	12.19	-	-	NL	-	-	-	-	-	-	-	138.61318	-34.72925	F113420	A36	CT 5671 95
360	**NW**	6628-3034	-	WW	Qpah	55.78	-	DOMIRR, STK	OPR	-	-	-	-	-	-	0.63	138.609592	-34.72416	D124499	A1008	CT 6242 574
360	**W**	6628-29067	-	WW	-	7.3	14/05/2017	INV	-	-	5	-	14/05/2017	-	-	-	138.60867	-34.72678	-	-	-
370	**SW**	6628-22234	-	WW	Tomw(T1)	108	11/03/2005	IRR	OPR	16/12/2007	-	-	-	664	-	15.15	138.609303	-34.72826	F113423	A39	CT 6007 24
380	**NW**	6628-3032	-	WW	Qpah(Q3)	36.58	15/09/1969	STK	OPR	15/09/1969	12.19	2.81	15/09/1969	-	-	-	138.609276	-34.72413	D124499	A1008	CT 6242 574
390	**ENE**	6628-29099	-	WW	-	7	30/05/2017	INV	-	-	5	-	30/05/2017	-	-	-	138.616376	-34.72457	D68816	Q153	CT 5962 340
390	**ENE**	6628-29813	-	WW	-	23.5	22/06/2018	ENV	-	-	-	-	-	-	-	-	138.616356	-34.72454	D68816	Q153	CT 5962 340
400	**SSW**	6628-14418	-	WW	Tomw(T1)	110	21/04/1989	IRR	BKF	10/10/2000	-	-	-	644	8.1	12	138.611007	-34.72962	F113422	A38	CT 5844 100
410	**S**	6628-3013	-	WW	Qpah	7.62	-	-	NL	-	-	-	-	-	-	-	138.61196	-34.72989	F113421	A37	CT 5942 459
420	**ESE**	6628-29808	-	WW	-	30	6/07/2018	INV	-	-	-	-	-	-	-	-	138.616642	-34.72798	-	-	-
420	**SSE**	6628-3014	-	WW	Qpah	13.72	6/06/1962	IRRSTK	ABD	8/05/1969	-	-	-	-	-	-	138.613849	-34.7299	D74704	A302	CT 6010 431
430	**WSW**	6628-22932	-	WW	Tomw(T1)	114	26/04/2007	-	-	-	-	-	-	717	-	12.5	138.608037	-34.72711	F4977	A2	CT 5401 201
450	**NNW**	6628-29068	ADE090	WW	-	8	20/05/2017	INV	-	-	4	-	20/05/2017	-	-	-	138.61134	-34.7223	-	-	-
450	**SW**	6628-3018	-	WW	Tomw(T1)	114.3	1/01/1966	IRR	BKF	2/11/2016	-	-	-	688	8.4	18.94	138.609757	-34.72958	F107269	A1	CT 6007 23
460	**SSW**	6628-15214	-	WW	Tomw(T1)	110	18/01/1990	IRR	OPR	18/01/1990	-	-	-	1423	7.3	12	138.610627	-34.73007	F113422	A38	CT 5844 100
460	**SW**	6628-20489	-	WW	Tomw(T1)	109	10/10/2000	IRR	OPR	6/09/2005	15	-1.78	10/10/2000	649	-	14	138.609614	-34.72958	F107269	A1	CT 6007 23
460	**WSW**	6628-17292	ADE141	WW	Tomw(T1)	99.5	10/07/1995	IRR	OPR	16/12/2007	-	-	-	686	7.6	15	138.607949	-34.7279	D74180	A19	CT 5994 359
470	**SW**	6628-3010	-	WW	Tomw(T1)	111.86	20/01/1942	IRR	OPR	16/12/2007	5.18	7.12	13/08/1968	669	7.4	1.89	138.608612	-34.72898	F113423	A39	CT 6007 24
510	**S**	6628-3019	-	WW	Tomw(T1)	-	2/05/1968	IRR	OPR	7/01/1987	-	-	-	674	7.4	-	138.612603	-34.73085	D41854	A154	CT 5267 328
520	**NNE**	6628-29095	-	WW	-	7.5	22/05/2017	INV	-	-	-	-	-	-	-	-	138.614664	-34.72188	D87531	A3001	CT 6114 320
530	**ESE**	6628-29065	-	WW	-	7.5	20/05/2017	INV	-	-	4	-	20/05/2017	-	-	-	138.617725	-34.72848	-	-	-
530	**NNE**	6628-29790	-	WW	-	21	13/04/2018	INV	-	-	-	-	-	-	-	-	138.614547	-34.72176	D87531	A3001	CT 6114 320
540	**WSW**	6628-27242	-	WW	Tomw(T1)	108	3/04/2014	IRR	OPR	2/12/2014	16	-	3/04/2014	681	-	15	138.607502	-34.72873	D74180	A22	CT 5994 360
550	**W**	6628-11194	-	WW	Tomw(T1)	102	1/01/1972	IRR	BKF	1/08/2006	-	-	-	801	7.8	-	138.606599	-34.727	D74180	A19	CT 5994 359
560	**S**	6628-3017	-	WW	Tomw(T1)	117.65	31/01/1961	IRR	OPR	7/01/1987	-	-	-	651	7.5	7.58	138.613077	-34.7313	D74704	A302	CT 6010 431
590	**SSW**	6628-27636	-	WW	Tomw(T1)	111	2/10/2014	-	-	-	11	-	2/10/2014	651	-	8	138.610506	-34.73124	F18920	A1	CT 5473 653
600	**NNE**	6628-29069	-	WW	-	7.5	23/05/2017	INV	-	-	5	-	23/05/2017	-	-	-	138.614012	-34.721	D87531	A3001	CT 6114 320
600	**NNE**	6628-29102	-	WW	-	16	4/07/2017	INV	-	-	7	-	4/07/2017	-	-	-	138.613992	-34.72097	D87531	A3001	CT 6114 320
610	**S**	6628-3012	-	WW	Qpah	18.29	-	IRRSTK	NL	-	-	-	-	-	-	-	138.613098	-34.73171	D74704	A302	CT 6010 431
610	**S**	6628-29063	-	WW	-	9.5	17/05/2017	INV	-	-	-	-	-	-	-	-	138.612671	-34.73177	-	-	-
610	**S**	6628-29891	-	WW	-	19.5	2/03/2018	INV	-	-	-	-	-	-	-	-	138.612672	-34.73177	-	-	-
610	**WSW**	6628-3031	-	WW	Tomw(T1)	106.68	15/11/1963	IRR	OPR	24/07/1986	10.06	2.94	4/04/1967	697	7.9	10.1	138.606118	-34.7274	F113424	A40	CT 5598 411
620	**S**	6628-23161	-	WW	Tomw(T1)	112	17/10/2007	-	-	-	12.5	0.84	17/10/2007	629	-	10	138.611713	-34.7318	F18920	A2	CT 5473 899
620	**SE**	6628-25229	-	WW	Qpah	10	17/05/2007	INV	-	-	4.4	-	17/05/2007	-	-	-	138.617928	-34.72965	-	-	-
620	**WSW**	6628-3029	-	WW	Tomw(T1)	106.68	1/01/1967	IRR	BKF	18/11/2012	-	-	-	759	7.5	12.63	138.60631	-34.7283	F114414	A53	CT 5820 3
630	**SW**	6628-20327	-	WW	Tomw(T1)	107	25/08/2000	OBS	OPR	25/08/2000	8.78	3.51	22/09/2021	693	7.6	-	138.607144	-34.72968	-	-	-
640	**SW**	6628-30767	-	WW	Tomw(T1)	108	4/03/2020	-	-	-	18.1	-	4/03/2020	684	-	8	138.607596	-34.73031	F114404	A43	CT 5348 305

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
670	**N**	6628-29094	-	WW	-	8	19/05/2017	INV	-	-	6	-	19/05/2017	-	-	-	138.61258	-34.72022	-	-	-
690	**E**	6628-22739	-	WW	Qpah	6.5	10/02/2003	INV	DRY	10/02/2003	-	-	10/02/2003	-	-	-	138.620087	-34.72532	D87531	A3001	CT 6114 320
690	**N**	6628-29096	-	WW	-	5.5	22/05/2017	INV	-	-	3.5	-	22/05/2017	-	-	-	138.613187	-34.72006	D87531	A3001	CT 6114 320
700	**NNE**	6628-29795	-	WW	-	20	2/04/2018	INV	-	-	-	-	-	-	-	-	138.615152	-34.72033	D87531	A3001	CT 6114 320
720	**E**	6628-3049	-	WW	Qpah	12.19	8/12/1967	-	ABD	8/12/1967	-	-	-	5675	-	4.42	138.620536	-34.72633	D87531	A3001	CT 6114 320
720	**WSW**	6628-29655	-	WW	-	8.5	16/03/2018	INV	-	-	-	-	-	-	-	-	138.604932	-34.72765	-	-	-
740	**SE**	6628-17923	-	WW	Tomw(T1)	112	14/04/1996	IRR	OPR	14/10/2002	-	-	-	594	7.5	12	138.618031	-34.73119	D119715	A214	CT 6216 501
740	**SSE**	6628-25230	-	WW	Qpah	8	18/05/2007	INV	-	-	5.2	-	18/05/2007	-	-	-	138.616817	-34.73199	D87853	A501	CT 6085 986
740	**WSW**	6628-3027	-	WW	Qpac(Q4)	76.2	17/04/1967	IRR	BKF	24/07/2003	-	-	-	1032	8	3.79	138.605084	-34.72878	D76463	A10	CT 6008 879
790	**E**	6628-29103	-	WW	-	18.5	23/06/2017	INV	-	-	-	-	-	-	-	-	138.621228	-34.72651	D87531	A3001	CT 6114 320
790	**ENE**	6628-22740	-	WW	Qpah	6.9	10/02/2003	INV	DRY	10/02/2003	-	-	10/02/2003	-	-	-	138.619839	-34.72235	D87531	A3001	CT 6114 320
790	**SSE**	6628-3023	-	WW	Qpah	22.86	3/10/1968	IRR	OPR	25/10/1968	-	-	-	2925	6.8	12.63	138.615487	-34.73294	F113402	A18	CT 5559 155
810	**WSW**	6628-27640	-	WW	-	-	8/10/2009	-	BKF	8/10/2009	-	-	-	-	-	-	138.605089	-34.73019	F114410	A49	CT 5566 144
820	**N**	6628-29640	-	WW	-	6.3	24/01/2018	INV	-	-	-	-	-	-	-	-	138.611993	-34.71885	F114109	A2	CT 5870 504
830	**ESE**	6628-10976	-	WW	Qpah	36	30/03/1979	OBS	OPR	30/03/1979	-	-	-	2909	8.1	-	138.620601	-34.72979	D93257	A135	CT 6133 134
830	**ESE**	6628-16470	ADE103	WW	Qpah	36	30/03/1979	OBS	OPR	30/03/1979	-	-	-	4175	12	-	138.620601	-34.72979	D93257	A135	CT 6133 134
830	**N**	6628-29847	-	WW	-	18	12/02/2018	INV	-	-	-	-	-	-	-	-	138.611973	-34.71883	F114109	A2	CT 5870 504
840	**N**	6628-30050	-	WW	-	39	19/10/2018	INV	-	-	-	-	-	-	-	-	138.611902	-34.71875	F114109	A2	CT 5870 504
840	**N**	6628-30055	-	WW	-	57	25/01/2019	INV	-	-	-	-	-	-	-	-	138.611893	-34.71867	F114109	A2	CT 5870 504
850	**ESE**	6628-29313	-	WW	-	8	13/02/2018	INV	-	-	-	-	-	-	-	-	138.62081	-34.72988	D93257	A503	CT 6133 136
860	**S**	6628-3007	-	WW	Tomw(T1)	112.78	4/02/1966	IRR	OPR	7/01/1987	12.19	1.81	19/04/1967	677	7.4	15.15	138.612235	-34.73401	D40394	A106	CT 5222 260
870	**SE**	6628-3020	-	WW	Tomw(T1)	114.3	17/02/1953	DOMIRR, OBS	OPR	25/09/1998	-	-	-	605	8.3	9.47	138.618739	-34.73225	D87853	A52	CT 6085 954
870	**SE**	6628-25231	ADE061	WW	Qpah	8	18/05/2007	INV	-	-	-	-	-	-	-	-	138.619327	-34.73181	-	-	-
870	**SSW**	6628-3008	-	WW	-	-	-	-	NL	6/06/1962	-	-	-	-	-	-	138.608769	-34.73341	F18920	A1	CT 5473 653
870	**W**	6628-3030	-	WW	Tomw(T1)	111.25	17/02/1963	IRR	OPR	5/04/1967	8.23	4.77	13/04/1964	770	7.6	18.94	138.603093	-34.72538	D22683	A12	CT 5281 168
880	**NNE**	6628-29072	-	WW	-	7.5	22/05/2017	INV	-	-	5.5	-	22/05/2017	-	-	-	138.616536	-34.71901	D87531	A3001	CT 6114 320
880	**SW**	6628-3028	-	WW	Tomw(T1)	109.73	25/02/1967	IRR	BKF	19/07/2007	-	-	-	624	7.5	12.63	138.605046	-34.73123	F114403	A42	CT 5991 483
900	**E**	6628-21321	-	WW	Tomw(T2)	178	23/06/2003	MON	OPR	23/06/2003	5.26	10.44	22/09/2021	1658	-	20	138.622385	-34.72709	D87531	A3001	CT 6114 320
900	**E**	6628-22741	-	WW	Qpah	6	10/02/2003	INV	DRY	10/02/2003	-	-	10/02/2003	-	-	-	138.622445	-34.72652	D87531	A3001	CT 6114 320
920	**SE**	6628-3022	-	WW	Qpah	30.48	2/01/1969	IRR	OPR	22/07/1986	-	-	-	2227	7.9	7.58	138.619401	-34.73239	D87853	A11	CT 6085 913
930	**E**	6628-29066	-	WW	-	8	19/05/2017	INV	-	-	5.5	-	19/05/2017	-	-	-	138.62261	-34.72763	-	-	-
940	**N**	6628-27293	-	WW	Qpah	8.5	30/05/2014	INV	-	-	2.1	-	30/05/2014	-	-	-	138.611108	-34.7179	F114109	A2	CT 5870 504
960	**SE**	6628-29312	-	WW	-	8	13/02/2018	INV	-	-	-	-	-	-	-	-	138.619268	-34.73299	-	-	-
960	**SW**	6628-29314	-	WW	-	8.5	8/02/2018	INV	-	-	-	-	-	-	-	-	138.604965	-34.73215	-	-	-
960	**SW**	6628-29677	-	WW	-	8.5	8/02/2018	INV	-	-	-	-	-	-	-	-	138.604956	-34.73214	-	-	-
970	**E**	6628-21325	-	WW	Tomw(T2)	180	26/06/2003	MAROBS	OPR	25/05/2017	17	-0.06	26/06/2003	1714	-	20	138.623178	-34.72686	D71564	A802	CT 6039 539
970	**N**	6628-3035	-	WW	Qpah	30.48	-	STK	ABD	-	-	-	-	-	-	-	138.612064	-34.71755	F114109	A2	CT 5870 504
1030	**SW**	6628-3009	-	WW	Tomw(T1)	106	29/08/2006	IRR	RHB	29/08/2006	4	9	29/08/2006	660	7.4	6.31	138.605494	-34.73351	F7982	A4	CT 5502 879
1070	**NE**	6628-29073	-	WW	-	9	14/06/2017	INV	-	-	7	-	14/06/2017	-	-	-	138.620178	-34.71887	D87531	A3001	CT 6114 320
1070	**NNW**	6628-3036	-	WW	Tomw(T1)	78.33	30/04/1959	IRR	OPR	7/01/1987	-	-	-	757	7.4	-	138.60728	-34.71764	D123735	A4312	CT 6237 928
1080	**SSE**	6628-14253	-	WW	Tomw(T1)	112.7	6/02/1989	IRR	OPR	6/02/1989	-	-	-	1714	7.2	18.94	138.617369	-34.73511	D65599	A8	CT 5929 681
1090	**E**	6628-21322	-	WW	Tomw(T1)	111	29/05/2003	IRRMON	OPR	29/05/2003	28.35	-12.64	22/09/2021	994	-	15	138.624493	-34.72676	D68390	A6	CT 6055 304
1100	**E**	6628-21324	-	WW	Tomw(T2)	178	19/06/2003	MAR	OPR	1/09/2016	20	-2.58	19/06/2003	1720	-	20	138.624587	-34.72685	D71564	A802	CT 6039 539
1120	**NNE**	6628-29789	-	WW	-	21	28/05/2018	INV	-	-	-	-	-	-	-	-	138.616756	-34.71673	D87531	A3001	CT 6114 320
1120	**SW**	6628-3026	-	WW	-	-	6/06/1962	-	ABD	6/02/1962	-	-	-	-	-	-	138.602824	-34.73242	D70756	A1	CT 5966 689
1130	**ESE**	6628-26270	-	WW	Qpah	13	29/11/2011	INV	-	-	4.76	11.73	29/11/2011	-	-	-	138.624389	-34.72933	D75400	A133	CT 5997 894
1130	**NNE**	6628-29668	-	WW	-	5.5	10/01/2018	INV	-	-	-	-	-	-	-	0	138.61683	-34.71673	D87531	A3001	CT 6114 320
1130	**SSW**	6628-29062	-	WW	-	9.5	17/05/2017	INV	-	-	4	-	17/05/2017	-	-	-	138.608518	-34.73584	F6648	A2	CT 5069 787
1130	**SSW**	6628-29829	-	WW	-	21	5/03/2018	INV	-	-	-	-	-	-	-	-	138.608505	-34.73582	F6648	A2	CT 5069 787

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1130	**SSW**	6628-29835	-	WW	-	36	24/08/2018	INV	-	-	-	-	-	-	-	-	138.608476	-34.73585	F6648	A2	CT 5069 787
1130	**SSW**	6628-30045	-	WW	-	9.5	18/05/2017	INV	-	-	-	-	-	-	-	-	138.608519	-34.73584	F6648	A2	CT 5069 787
1130	**SSW**	6628-30054	-	WW	-	48	1/02/2019	INV	-	-	-	-	-	-	-	-	138.608572	-34.73583	F6648	A2	CT 5069 787
1140	**NNE**	6628-3051	-	WW	Qpah	9.75	-	IRRSTK	OPR	-	6.1	9.9	-	-	-	6.32	138.615585	-34.71625	D87531	A3001	CT 6114 320
1140	**NNE**	6628-29106	-	WW	-	6.5	25/05/2017	INV	-	-	2.5	-	25/05/2017	-	-	-	138.618628	-34.71724	D87531	A3001	CT 6114 320
1140	**NNE**	6628-29788	-	WW	-	24	28/05/2018	INV	-	-	-	-	-	-	-	-	138.618592	-34.71726	D87531	A3001	CT 6114 320
1150	**NNW**	6628-29639	-	WW	-	10	25/01/2018	INV	-	-	-	-	-	-	-	-	138.609593	-34.7162	F114109	A2	CT 5870 504
1150	**NNW**	6628-29848	-	WW	-	20	15/02/2018	INV	-	-	-	-	-	-	-	-	138.609611	-34.71622	F114109	A2	CT 5870 504
1170	**N**	6628-29107	-	WW	-	8	3/06/2017	INV	-	-	5	-	3/06/2017	-	-	-	138.613288	-34.71568	F114109	A2	CT 5870 504
1170	**SSE**	6628-3006	-	WW	Tomw(T1)	117.35	4/04/1967	IRR	OPR	24/02/1992	45.72	-30.72	4/04/1967	659	7.6	11.37	138.616558	-34.73632	D89745	A403	CT 6097 591
1220	**E**	6628-21323	-	WW	Tomw(T2)	183	6/06/2003	MAR	OPR	1/09/2016	13.5	4.33	6/06/2003	1631	-	20	138.625933	-34.7275	D71564	A802	CT 6039 539
1220	**S**	6628-19416	-	WW	Tomw(T1)	104	2/12/1998	IRR	OPR	1/12/2003	-	-	-	320	-	15	138.612647	-34.73728	D41289	A105	CT 5255 338
1230	**NNE**	6628-27300	-	WW	Qpah	9	30/05/2014	INV	-	-	4.1	-	30/05/2014	-	-	-	138.619096	-34.71653	D87531	A3001	CT 6114 320
1260	**NNE**	6628-29811	-	WW	-	42	24/07/2018	ENV	-	-	-	-	-	-	-	-	138.619581	-34.71644	D87531	A3001	CT 6114 320
1270	**NNE**	6628-29105	-	WW	-	9.5	7/06/2017	INV	-	-	6	-	7/06/2017	-	-	-	138.619619	-34.71638	D87531	A3001	CT 6114 320
1270	**NNE**	6628-29114	ADE129	WW	-	17	6/07/2017	INV	-	-	4	-	6/07/2017	-	-	-	138.619642	-34.71639	D87531	A3001	CT 6114 320
1270	**NNE**	6628-30053	-	WW	-	61	13/12/2018	INV	-	-	-	-	-	-	-	-	138.619688	-34.71644	D87531	A3001	CT 6114 320
1290	**NE**	6628-29672	-	WW	-	8.7	5/02/2018	INV	-	-	-	-	-	-	-	-	138.624038	-34.71941	D87531	A3001	CT 6114 320
1290	**NE**	6628-30046	-	WW	-	24	29/03/2018	INV	-	-	-	-	-	-	-	-	138.624003	-34.71939	D87531	A3001	CT 6114 320
1320	**W**	6628-3772	-	WW	Qpah(Q2)	19.2	4/02/1955	STK	UKN	23/03/1999	1.52	9.48	12/09/1963	8797	-	-	138.598104	-34.72646	D86975	A78	CT 6093 631
1340	**NNE**	6628-29641	-	WW	-	7	9/01/2018	INV	-	-	-	-	9/01/2018	-	-	-	138.617679	-34.71495	D87531	A3001	CT 6114 320
1340	**NNW**	6628-29638	-	WW	-	6	25/01/2018	INV	-	-	-	-	-	-	-	-	138.608278	-34.71469	F114109	A2	CT 5870 504
1340	**SW**	6628-20392	-	WW	Tomw(T2)	180	20/11/2000	MAR	OPR	21/01/2004	12.4	-1.38	20/11/2000	2745	-	20	138.602695	-34.73522	F6648	A2	CT 5069 787
1350	**NE**	6628-29649	-	WW	-	8.6	7/02/2018	INV	-	-	-	-	-	-	-	-	138.621094	-34.71625	D87531	A3001	CT 6114 320
1360	**S**	6628-30052	-	WW	-	39	14/12/2018	INV	-	-	-	-	-	-	-	-	138.615205	-34.73834	-	-	-
1370	**S**	6628-27223	-	WW	Qpah	40	23/02/2014	-	-	-	5.7	-	23/02/2014	-	-	7.58	138.614031	-34.73854	F19261	A2	CT 5329 813
1370	**SSE**	6628-29316	-	WW	-	9.5	12/02/2018	INV	-	-	-	-	-	-	-	-	138.618592	-34.73753	D10067	A300	CT 5484 235
1370	**WNW**	6628-29876	-	WW	-	98	25/10/2018	-	-	-	16	-	25/10/2018	776	-	12	138.599202	-34.72072	D68938	A119	CT 5958 974
1390	**WNW**	6628-3803	-	WW	Tomw(T1)	83.82	16/03/1953	DOMIRR, OBS	OPR	29/03/2005	15.85	-2.85	13/08/1963	740	7.8	16.42	138.599023	-34.72052	D68938	A119	CT 5958 974
1400	**WNW**	6628-3804	-	WW	Qpah(Q4)	54.86	1/01/1959	IRRSTK	BKF	19/06/2006	5.49	6.51	-	540	-	0.63	138.599173	-34.72011	D80770	A303	CT 6042 640
1410	**ESE**	6628-29317	-	WW	-	8.5	15/02/2018	INV	-	-	-	-	-	-	-	-	138.627729	-34.72887	-	-	-
1420	**ESE**	6628-26272	-	WW	Qpah	14	28/11/2011	INV	-	-	5.86	11.9	28/11/2011	-	-	-	138.626762	-34.73146	D121093	A1	CT 6224 168
1420	**NNE**	6628-29109	-	WW	-	9	2/06/2017	INV	-	-	7	-	2/06/2017	-	-	-	138.619056	-34.71465	D87531	A3001	CT 6114 320
1420	**NNE**	6628-29787	-	WW	-	23.5	25/05/2018	INV	-	-	-	-	-	-	-	-	138.618996	-34.71463	D87531	A3001	CT 6114 320
1420	**WNW**	6628-29654	-	WW	-	8.5	30/01/2018	INV	-	-	-	-	-	-	-	-	138.597662	-34.72279	-	-	-
1420	**WNW**	6628-29806	-	WW	-	24	4/07/2018	INV	-	-	-	-	-	-	-	-	138.597612	-34.72285	-	-	-
1430	**SSW**	6628-2990	-	WW	Qpah	51.82	11/01/1957	IRR	OPR	11/01/1957	-	-	-	626	-	-	138.608019	-34.73856	F114399	A38	CT 5452 11
1480	**SW**	6628-28289	-	WW	Tomw(T1)	106	15/01/2016	-	-	-	14	-	15/01/2016	713	-	5	138.599729	-34.73443	F35781	A10	CT 5257 481
1490	**N**	6628-3044	-	WW	Qpah	42.67	-	DOM	ABD	1/06/1962	-	-	-	-	-	-	138.609958	-34.71296	F114109	A2	CT 5870 504
1500	**NW**	6628-29651	-	WW	-	8	5/04/2018	INV	-	-	-	-	-	-	-	-	138.600494	-34.7171	D92443	A501	CT 6121 647
1510	**NNW**	6628-30056	-	WW	-	57	14/11/2018	INV	-	-	-	-	-	-	-	-	138.607122	-34.71341	F114109	A2	CT 5870 504
1510	**NW**	6628-28229	-	WW	Qpah	8	29/02/2016	INV	-	-	4.8	-	29/02/2016	-	-	-	138.601978	-34.7158	D92443	A30	CT 6121 636
1520	**NNW**	6628-29831	-	WW	-	46.5	30/07/2018	INV	-	-	-	-	-	-	-	-	138.607044	-34.71332	F114109	A2	CT 5870 504
1520	**NNW**	6628-29841	-	WW	-	10	12/02/2018	INV	-	-	-	-	-	-	-	-	138.60702	-34.7133	F114109	A2	CT 5870 504
1520	**NW**	6628-28232	-	WW	Qpah	8	8/03/2016	INV	-	-	4.7	-	8/03/2016	-	-	-	138.602466	-34.71541	D92443	A30	CT 6121 636
1530	**NW**	6628-28230	-	WW	Qpah	9.5	29/02/2016	INV	-	-	4.4	-	29/02/2016	-	-	-	138.601871	-34.71566	D92443	A30	CT 6121 636
1530	**NW**	6628-28231	-	WW	Qpah	8	29/02/2016	INV	-	-	4.1	-	29/02/2016	-	-	-	138.602051	-34.7155	D92443	A30	CT 6121 636
1540	**N**	6628-3045	-	WW	Tomw(T1)	96.93	8/11/1946	-	ABD	1/06/1962	-	-	-	1670	-	1.01	138.609423	-34.71258	F114109	A2	CT 5870 504
1540	**S**	6628-2989	-	WW	Qpah	9.75	9/04/1969	STK	OPR	10/04/1969	-	-	-	4676	7	-	138.609902	-34.73994	F114398	A37	CT 5809 576

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1540	**SSE**	6628-3005	-	WW	-	-	-	-	NL	19/09/2005	-	-	-	-	-	-	138.618848	-34.73911	D10071	A176	CT 5532 539
1550	**SE**	6628-3024	-	WW	Qpah	45.72	10/06/1969	OBS	OPR	5/12/1975	2.83	15.31	5/12/1975	187	7.5	0.38	138.622838	-34.73744	-	-	-
1550	**SE**	6628-21788	-	WW	Tomw(T1)	108.4	8/05/2004	IRR	OPQ	27/01/2005	4.8	14.08	8/05/2004	665	8.1	12	138.625332	-34.73553	D9593	A1	CT 6201 293
1560	**SW**	6628-21916	ADE035	WW	Qpah	4.5	3/04/2004	MON	-	-	3	7.61	3/04/2004	-	-	-	138.601155	-34.73671	F6648	A2	CT 5069 787
1570	**ESE**	6628-21260	-	WW	Qpah	30	28/05/2003	INV	-	-	10	9.12	28/05/2003	1968	-	1.5	138.628922	-34.73068	D75400	A101	CT 5997 880
1580	**NE**	6628-24575	-	WW	Qpah	12.6	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.624346	-34.71581	D87531	A3001	CT 6114 320
1590	**NE**	6628-29800	-	WW	-	25.5	11/06/2018	INV	-	-	-	-	-	-	-	-	138.623875	-34.71538	D87531	A3001	CT 6114 320
1610	**NNE**	6628-29642	-	WW	-	6.5	9/01/2018	INV	-	-	-	-	9/01/2018	-	-	-	138.620446	-34.71321	D87531	A3001	CT 6114 320
1620	**SW**	6628-18545	-	WW	Tomw(T2)	180	8/06/1997	MAR	OPR	26/08/2004	0.83	9.32	31/05/2000	253	8.1	15	138.601461	-34.73762	F6648	A2	CT 5069 787
1620	**SW**	6628-29061	-	WW	-	8.4	18/05/2017	INV	-	-	-	-	-	-	-	-	138.601101	-34.73738	F6648	A2	CT 5069 787
1620	**SW**	6628-31037	-	WW	-	6	2/12/2020	INV	-	-	-	-	-	-	-	-	138.598091	-34.73461	D22169	A102	CT 5207 465
1620	**W**	6628-3773	-	WW	Tomw(T1)	102.72	1/01/1959	DOMIRR	OPR	1/01/1959	-	-	-	684	8.5	12.63	138.594831	-34.72688	D87669	A80	CT 6092 483
1640	**ESE**	6628-26271	-	WW	Qpah	14	28/11/2011	INV	-	-	6.77	12.23	28/11/2011	-	-	-	138.629085	-34.73222	D121093	A1	CT 6224 168
1640	**S**	6628-29836	-	WW	-	24	14/08/2018	INV	-	-	-	-	-	-	-	-	138.615598	-34.74082	D10430	A286	CT 5740 212
1650	**S**	6628-29828	-	WW	-	10	18/05/2018	INV	-	-	-	-	-	-	-	-	138.615441	-34.74094	-	-	-
1650	**SSW**	6628-29658	-	WW	-	10	4/04/2018	INV	-	-	-	-	-	-	-	-	138.604942	-34.73976	F6648	A2	CT 5069 787
1650	**SW**	6628-31036	-	WW	-	6	2/12/2020	INV	-	-	-	-	-	-	-	-	138.598057	-34.73503	D22169	A102	CT 5207 465
1650	**W**	6628-3774	-	WW	Tomw(T1)	80.16	1/01/1960	OBS	OPR	1/01/1960	5.64	5.62	1/08/1960	-	-	-	138.594487	-34.72694	D87669	A80	CT 6092 483
1660	**SW**	6628-21917	-	WW	Qpah	4.5	3/04/2004	MON	-	-	3	7.15	3/04/2004	-	-	-	138.600869	-34.73773	-	-	-
1670	**NNW**	6628-29849	-	WW	-	20	16/02/2018	INV	-	-	-	-	-	-	-	-	138.605983	-34.71219	F114109	A2	CT 5870 504
1670	**SW**	6628-31035	-	WW	-	10	1/12/2020	INV	-	-	-	-	-	-	-	-	138.597813	-34.73515	D22169	A102	CT 5207 465
1680	**NNW**	6628-29070	-	WW	-	6	31/05/2017	INV	-	-	3.5	-	31/05/2017	-	-	-	138.605964	-34.71217	F114109	A2	CT 5870 504
1680	**NNW**	6628-29071	-	WW	-	7.2	17/05/2017	INV	-	-	5	-	17/05/2017	-	-	-	138.602791	-34.71341	-	-	-
1680	**NNW**	6628-29817	-	WW	-	23.5	22/06/2018	ENV	-	-	-	-	-	-	-	-	138.602768	-34.71345	-	-	-
1690	**SSW**	6628-2987	-	WW	Tomw(T1)	105.16	1/01/1930	OBSSTK	NL	25/09/1998	2.3	9.09	19/08/1976	1250	8.2	0.25	138.604129	-34.7398	D11291	A38	CT 5409 500
1700	**NE**	6628-29648	-	WW	-	6.1	5/02/2018	INV	-	-	-	-	-	-	-	-	138.626222	-34.71574	D87531	A3001	CT 6114 320
1710	**ESE**	6628-26269	-	WW	Qpah	14	29/11/2011	INV	-	-	7.47	11.95	29/11/2011	-	-	-	138.630654	-34.73056	D75400	A103	CT 5997 882
1710	**NE**	6628-29108	-	WW	-	7.5	1/06/2017	INV	-	-	5.5	-	1/06/2017	-	-	-	138.625293	-34.71488	D87531	A3001	CT 6114 320
1720	**NE**	6628-28175	-	WW	Qpah	9	31/01/2015	-	-	-	4	-	31/01/2015	-	-	-	138.623539	-34.71364	D87531	A3001	CT 6114 320
1720	**SSW**	6628-17040	-	ENG	-	3.8	-	-	-	-	-	-	-	-	-	-	138.603709	-34.73995	-	-	-
1730	**SSE**	6628-22767	-	WW	Tomw(T1)	120	14/12/2006	IRR	OPR	21/12/2014	15	0.75	14/12/2006	660	-	15	138.618392	-34.74106	D10070	A322	CT 5483 909
1740	**SW**	6628-3770	-	WW	Qpah(Q4)	51.82	1/01/1920	-	ABD	-	0	10	9/03/1948	622	7.9	-	138.598472	-34.73677	D65671	A801	CT 5926 823
1750	**ENE**	6628-27301	-	WW	Qpah	18	9/06/2014	INV	-	-	-	-	-	-	-	-	138.629487	-34.71874	D81278	A20	CT 6052 298
1750	**NE**	6628-28176	-	WW	Qpah	6.5	31/07/2015	-	-	-	6	-	31/07/2015	-	-	-	138.623618	-34.71329	D87531	A3001	CT 6114 320
1750	**SSW**	6628-29657	-	WW	-	10	18/01/2018	INV	-	-	-	-	-	-	-	-	138.607656	-34.74148	F114398	A37	CT 5809 576
1750	**SW**	6628-3769	-	WW	Qpah	51.82	-	IRRSTK	ABD	-	-	-	-	434	-	1.26	138.598946	-34.73735	-	-	-
1760	**NE**	6628-28174	-	WW	Qpah	9.2	31/07/2015	-	-	-	4.2	-	31/07/2015	-	-	-	138.623726	-34.71325	D87531	A3001	CT 6114 320
1760	**S**	6628-2992	-	WW	Qpah	7.92	-	-	NL	-	-	-	-	-	-	0.38	138.612624	-34.74211	D11167	A1255	CT 5192 364
1760	**SE**	6628-3002	-	WW	Qpah	45.72	11/09/1950	IRR	OPR	10/07/1969	-	-	-	2610	6.5	5.05	138.623683	-34.73921	F126160	A4	CT 6024 138
1770	**NE**	6628-28173	-	WW	Qpah	7.5	31/08/2015	-	-	-	4.5	-	31/08/2015	-	-	-	138.623058	-34.71283	D87531	A3001	CT 6114 320
1770	**NNE**	6628-29785	-	WW	-	22	23/05/2018	INV	-	-	-	-	-	-	-	-	138.618708	-34.71112	D87531	A3001	CT 6114 320
1770	**WSW**	6628-29678	-	WW	-	6.5	16/03/2018	INV	-	-	-	-	-	-	-	-	138.596261	-34.73482	-	-	-
1780	**NNE**	6628-29643	-	WW	-	10	10/01/2018	INV	-	-	-	-	-	-	-	-	138.618758	-34.71108	D87531	A3001	CT 6114 320
1790	**SE**	6628-27461	-	WW	Qpah	10	-	-	BKF	30/09/2014	7.8	-	30/09/2014	-	-	-	138.624921	-34.73882	D95820	A3	CT 6159 620
1790	**SE**	6628-27466	-	WW	Qpah	10	30/09/2014	-	BKF	-	7.8	-	30/09/2014	-	-	-	138.624921	-34.73882	D95820	A3	CT 6159 620
1800	**ENE**	6628-30491	-	WW	-	7.5	5/09/2019	INV	-	-	-	-	5/09/2019	-	-	-	138.630346	-34.71906	D81278	A20	CT 6052 298
1810	**SW**	6628-3771	-	WW	Tomw(T1)	109.73	1/06/1966	IRRSTK	-	-	15.4	-5.4	18/03/2004	701	-	0.51	138.598583	-34.73782	-	-	-
1820	**ENE**	6628-25849	-	WW	Qpah	14	18/05/2011	MON	-	-	5.2	-	18/05/2011	-	-	-	138.629903	-34.71806	D87531	A3001	CT 6114 320
1820	**WNW**	6628-15531	ADE102	WW	Tomw(T1)	97	19/10/1990	IRR	OPR	19/10/1990	-	-	-	1025	-	30	138.593923	-34.72055	D19001	A15	CT 6123 582

Approximate Distance from site (m)	Approximate Direction from site	ID	Obs Well No.	Class	Aquifer	Max drill depth (m)	Max drill date	Purpose	Latest status	Latest Status Date	SWL (m)	RSWL (m)	Water level date	TDS (mg/L)	pH	Yield (L/s)	Decimal longitude	Decimal latitude (negative)	Original Plan	Original Parcel	Original Title
1830	**ENE**	6628-30490	-	WW	-	7.5	4/09/2019	INV	-	-	-	-	4/09/2019	-	-	-	138.630764	-34.71931	D81278	A20	CT 6052 298
1830	**W**	6628-29676	-	WW	-	8.5	14/03/2018	INV	-	-	-	-	-	-	-	-	138.592688	-34.72838	-	-	-
1840	**NE**	6628-29074	-	WW	-	10	23/05/2017	INV	-	-	7	-	23/05/2017	-	-	-	138.626434	-34.71416	D87531	A3001	CT 6114 320
1840	**NE**	6628-29786	ADE100	WW	-	18	30/03/2018	INV	-	-	-	-	-	-	-	-	138.624511	-34.71291	D87531	A3001	CT 6114 320
1850	**ENE**	6628-17227	-	WW	Qpah	11	12/04/1995	INV	BKF	17/09/2009	-	-	-	-	-	-	138.630326	-34.71811	D87531	A3001	CT 6114 320
1860	**ENE**	6628-25430	ADE175	WW	Qpah	12	7/12/2009	INV	-	-	-	-	-	-	-	-	138.630576	-34.71839	D87531	A3001	CT 6114 320
1860	**ENE**	6628-25848	-	WW	-	14	18/05/2011	INV	-	-	5.5	-	18/05/2011	-	-	-	138.63028	-34.7179	D87531	A3001	CT 6114 320
1860	**NNE**	6628-29644	-	WW	-	6	10/01/2018	INV	-	-	-	-	-	-	-	-	138.622408	-34.71157	D87531	A3001	CT 6114 320
1860	**W**	6628-3775	-	WW	Qpah(Q1)	3.66	4/02/1955	STK	UKN	26/05/1999	-	-	-	5985	-	-	138.592486	-34.72892	F5418	A8	CT 5798 87
1870	**ENE**	6628-17229	ADE101	WW	Qpah	13.5	19/04/1995	INV	-	-	-	-	-	-	-	-	138.630076	-34.71739	D87531	A3001	CT 6114 320
1870	**N**	6628-29637	-	WW	-	7.7	26/02/2018	INV	-	-	-	-	-	-	-	-	138.608642	-34.70971	F114109	A2	CT 5870 504
1880	**ENE**	6628-17228	-	WW	Qpah	9.2	12/04/1995	INV	-	-	-	-	-	-	-	-	138.629762	-34.71684	D87531	A3001	CT 6114 320
1880	**ENE**	6628-17230	-	WW	Qpah	13.5	19/04/1995	INV	-	-	-	-	-	-	-	-	138.630289	-34.71748	D87531	A3001	CT 6114 320
1890	**S**	6628-29656	-	WW	-	9.5	18/01/2018	INV	-	-	-	-	-	-	-	-	138.610774	-34.74322	D74911	A101	CT 5991 591
1900	**ENE**	6628-17231	-	WW	Qpah	13.5	19/04/1995	INV	-	-	-	-	-	-	-	-	138.630295	-34.7173	D87531	A3001	CT 6114 320
1900	**NNW**	6628-29636	-	WW	-	7.2	26/02/2018	INV	-	-	-	-	-	-	-	-	138.605135	-34.71023	F114109	A2	CT 5870 504
1910	**ENE**	6628-24583	-	WW	Qpah	12	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.631343	-34.71854	D87531	A3001	CT 6114 320
1910	**S**	6628-2994	-	WW	Tomw(T1)	116.25	30/01/1948	IRR	OPR	1/01/1952	-	-	-	1106	-	1.26	138.614992	-34.74331	D11245	A1206	CT 5700 950
1920	**ENE**	6628-17394	-	WW	Qpah	10.5	6/06/1995	INV	-	-	-	-	-	-	-	-	138.631095	-34.71795	D87531	A3001	CT 6114 320
1920	**ENE**	6628-24585	-	WW	Qpah	12.5	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.631182	-34.71807	D87531	A3001	CT 6114 320
1920	**ENE**	6628-24590	-	WW	Qpah	9.5	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.630099	-34.71661	D87531	A3001	CT 6114 320
1920	**NE**	6628-29090	-	WW	-	8	29/05/2017	INV	-	-	5	-	29/05/2017	-	-	-	138.627417	-34.71401	D87531	A3001	CT 6114 320
1920	**NE**	6628-29113	-	WW	-	17.5	30/06/2017	INV	-	-	6	-	30/06/2017	-	-	-	138.627393	-34.714	D87531	A3001	CT 6114 320
1920	**S**	6628-2995	-	WW	Qpah	48.77	30/05/1951	-	NL	-	-	-	-	1035	-	1.26	138.615778	-34.74331	D11306	A1197	CT 5098 39
1930	**ENE**	6628-24586	-	WW	Qpah	13	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.63156	-34.71858	D87531	A3001	CT 6114 320
1930	**NNE**	6628-3042	-	WW	Tomw(T1)	91.44	14/11/1946	-	ABD	1/06/1962	1.83	14.17	14/11/1946	4597	-	-	138.61842	-34.70952	H105400	S3076	CT 5870 504
1930	**NNE**	6628-29840	-	WW	-	42	20/07/2018	ENV	-	-	-	-	-	-	-	-	138.62358	-34.71137	D87531	A3001	CT 6114 320
1940	**NNE**	6628-29645	-	WW	-	7.5	2/02/2018	INV	-	-	-	-	-	-	-	-	138.623675	-34.71128	D87531	A3001	CT 6114 320
1940	**NNE**	6628-29812	-	WW	-	20	20/06/2018	ENV	-	-	-	-	-	-	-	-	138.623644	-34.71132	D87531	A3001	CT 6114 320
1940	**S**	6628-2991	-	WW	Qpah	7.62	8/07/1940	-	NL	-	-	-	-	2247	-	0.38	138.61177	-34.74371	D16306	A13	CT 5677 376
1960	**ENE**	6628-24582	-	WW	Qpah	11.7	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.631713	-34.71819	D87531	A3001	CT 6114 320
1960	**ENE**	6628-24584	-	WW	Qpah	19	25/03/2009	-	BKF	26/03/2009	-	-	-	-	-	-	138.631702	-34.7182	D87531	A3001	CT 6114 320
1960	**NE**	6628-27299	-	WW	Qpah	9	30/06/2014	INV	-	-	4.8	-	30/06/2014	-	-	-	138.628085	-34.71395	D87531	A3001	CT 6114 320
1960	**NE**	6628-29796	-	WW	-	24	7/06/2018	INV	-	-	-	-	-	-	-	-	138.627927	-34.71391	D87531	A3001	CT 6114 320
1980	**NE**	6628-25431	-	WW	Qpah	12	7/12/2009	INV	-	-	-	-	-	-	-	-	138.630174	-34.71583	D87531	A3001	CT 6114 320
1980	**NE**	6628-29794	-	WW	-	18	9/07/2018	INV	-	-	-	-	-	-	-	-	138.625268	-34.71173	D87531	A3001	CT 6114 320
1980	**S**	6628-20781	-	WW	Qpah	10	12/02/2002	INV	BKF	6/03/2003	6	8.28	12/02/2002	-	-	-	138.611023	-34.74401	D62388	A16	CT 5897 798
1990	**NE**	6628-29088	-	WW	-	7.5	1/07/2017	INV	-	-	4	-	1/07/2017	-	-	-	138.625599	-34.71188	D87531	A3001	CT 6114 320

Key

-	Unknown
SWL	Standing Water Level
RSWL	Reduced Water Level
TDS	Total Dissolved Solids
m	metres
mg/L	milligrams per litre

Aquifer Key

Qpah	Hindmarsh Clay
Qpah(Q1)	Hindmarsh Clay, (Quaternary aquifer)
Qpah(Q2)	Hindmarsh Clay, (Quaternary aquifer)
Qpah(Q3)	Hindmarsh Clay, (Quaternary aquifer)
Tomw(T1)	Port Willunga Formation
Tomw(T2)	Port Willunga Formation

Latest Status Key

ABD	Abandoned
BKF	Backfilled
DRY	Dry
NL	Not Located
OPQ	Operational as required
OPR	Operational
RHB	Rehabilitated
UKN	Unknown

Purpose Key

DOM	Domestic
DOMIRR	Domestic/Irrigation
DOMIRR, ST	Domestic/Irrigation/stock
ENV	Environmental
INV	Investigation
IRR	Irrigation
IRRSTK	Irrigation/Stock
MON	Monitoring
OBS	Observation
STK	Stock

Class Key

ENG	Engineering Well
WW	Water Well
Strat	Stratigraphic

Data Source:
WaterConnect (2023) Groundwater Data Online Database, Department of Environment, Water and Natural Resources, Government of South Australia, https://www.waterconnect.sa.gov.au/GD.

Data Downloaded: 24 January 2023