GAMUDA Australia

LAING O'ROURKE

Construction Monitoring Report

Sydney Metro West – Western Tunnelling Package

July 2022 to January 2023

ISSUE DATE: 13/04/2023

Document Details

Document Title	**Construction Monitoring Report**
Project Name	**Sydney Metro West – Western Tunnelling Package**
Client	**Sydney Metro**
GA Project No.	**00013/13065**
Document Reference No.	**SMWSTWTP-GLO-1NL-EN-RPT-000006**
Principal Contractor	**Gamuda Australia**
ABN	**27 632 738 768**
Project Address	**L8, 60 Station Street, Parramatta NSW 2150**

Document Authorisation

Revision	Date	Description of changes	Prepared by	Reviewed by
Rev A	10/03/23	First Draft	D. Mudd	S. Mifsud
Rev B	13/04/23	Revised draft for submission	D. Mudd	S. Mifsud

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1 INTRODUCTION

1.1 Background

Sydney Metro West (SMW) is a new underground railway connecting Greater Parramatta and the Sydney CBD. It will provide fast connections between greater Sydney's two major business centres as well as providing better access to the growing business and entertainment precincts in Olympic Park and Pyrmont, the health and medical research hub at Westmead and the future business and tourism site at The Bays.

An Environmental Impact Statement (EIS) (Jacobs/Arcadis, 2020) for the Concept and Stage 1 assessed the noise and vibration impacts in response to the Secretary Environmental Assessment Requirements issued by the Department of Planning and Environment, Industry and Environment (DPIEDPE). The Project was approved on 11 March 2021 (SSI 10038).

Sydney Metro is delivering the Sydney Metro West project via several different packages, including the Western Tunnelling Package (WTP, the Project).

1.2 Project Description

Sydney Metro is delivering the Sydney Metro West project via several different packages, including the Western Tunnelling Package (WTP, the Project).

The WTP Project location is from Westmead to Sydney Olympic Park. ***Figure 1*** is an overview map outlining the extent of the Project.

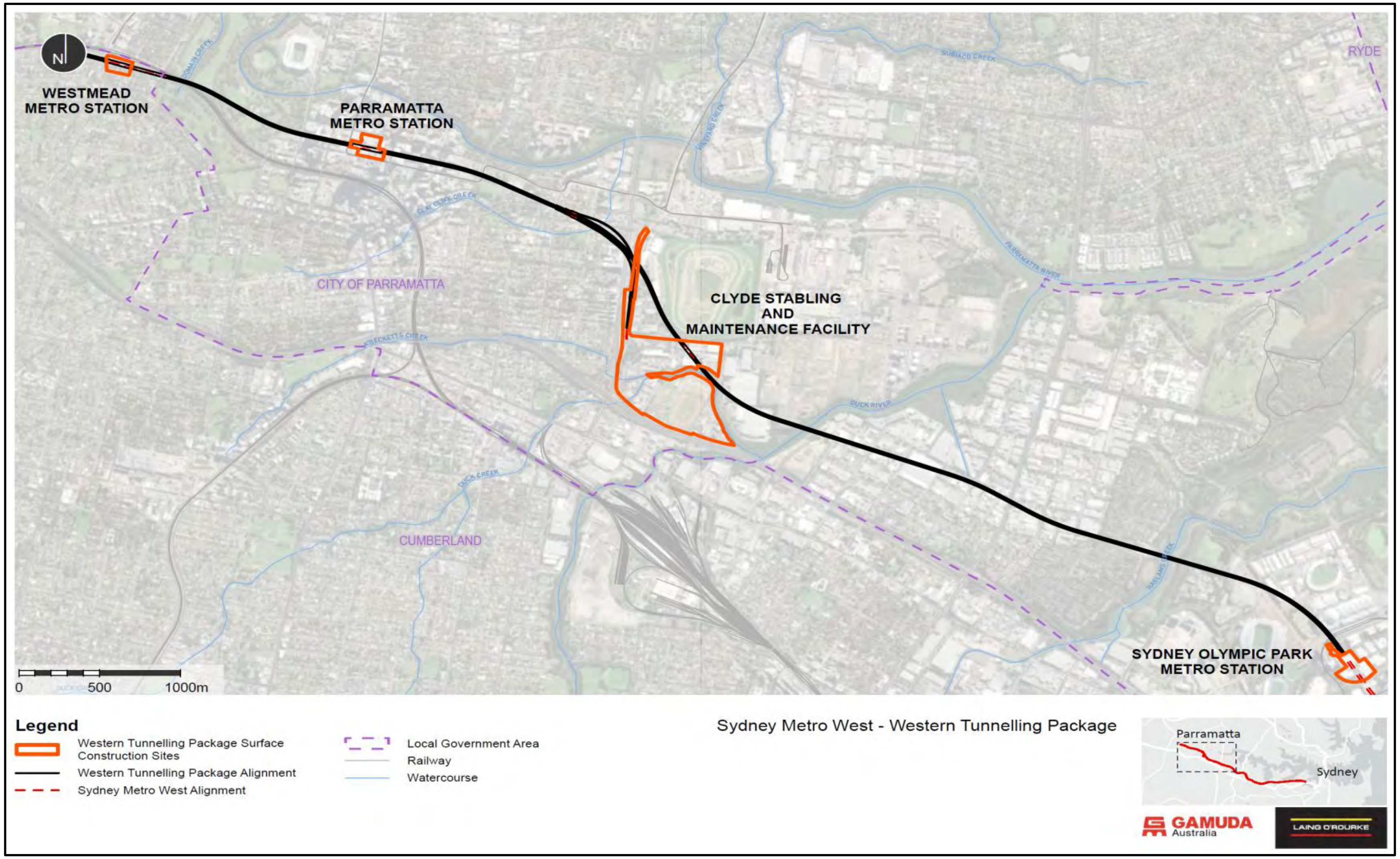

Figure 1 WTP Project Map Overview

1.3 Project Requirements

The Construction Monitoring Programs set out the requirement to develop and issue a Construction Monitoring Report (this report), collating noise and vibration, surface water and groundwater monitoring data every six months. This report collates the noise and vibration, surface water and groundwater monitoring undertaken during the reporting period of 19th July 2022 to 19th January 2023.

The Project requirements relevant to the preparation of this Construction Monitoring Report are identified in Table 1. A document reference is also included to indicate where the requirement is addressed in this Monitoring Report or other documents.

Table 1: Monitoring Report Compliance Matrix

<table>
<tr><th>REFERENCE</th><th>REQUIREMENTS</th><th>DOCUMENT REFERENCE</th></tr>
<tr><td>Condition of Approval C14</td><td>The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of Stage 1 of the CSSI against the performance predicted in the documents listed in Condition A1 of this schedule or in the CEMP:
<table>
<tr><th></th><th>Required Construction Monitoring Programs</th><th>Relevant government agencies to be consulted for each Construction Monitoring Program</th></tr>
<tr><td>(a)</td><td>Noise and vibration</td><td>EPA, SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)</td></tr>
<tr><td>(c)</td><td>Surface Water Quality</td><td>DPE Water, Relevant Council(s) and Sydney Water (if any Sydney Water assets are impacted)</td></tr>
<tr><td>(d)</td><td>Groundwater</td><td>DPE Water and SOPA (in respect of Sydney Olympic Park)</td></tr>
</table></td><td>(a) Section 1.5 of the Noise and Vibration Monitoring Program (GA-PLN-CNV-001)
(c) Section 1.4 of the Surface Water Quality Monitoring Program (SMWSTWTP-GLO-1NL-EN-PRG-000001)
(d) Section 1.4 of the Groundwater Monitoring Program (SMWSTWTP-GLO-1NL-EN-PRG-000002)</td></tr>
<tr><td>Condition of Approval C23</td><td>The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.</td><td>This document</td></tr>
</table>

1.4 Summary of works

The construction activities, and associated plant and equipment used at each of the construction sites, are outlined in ***Table 1.*** These activities generally aligned with those observed to be underway on site during the works during the reporting period:

Table 1 Construction Activities undertaken during the reporting period

SITE	CONSTRUCTION ACTIVTIES
Westmead	• Site preparatory works • Initial investigation work • Protecting and/or relocating utilities • Establishing site amenities • Establishing vehicle access and egress points • Establishing concrete slabs or piling platforms

SITE	CONSTRUCTION ACTIVTIES
	• Delivery of Equipment • General operation of ancillary facilities
Parramatta	• Site preparatory works • Initial investigation work • Archaeological clearance • Removal and/or relocating utilities • Establishing vehicle access and egress points • Delivery of equipment • General operation of ancillary facilities
Clyde Dive[1]	• Construction site establishment/haul roads • Demolition of former Rosehill station • Establishing piling platforms • Tree clearing • Shaft excavation and piling • Establishing concrete slabs/acoustic shed • Bulk earthworks • Haul road FRP and hoarding installation • General operation of ancillary facilities
Clyde MSF[1]	• Construction site establishment/demolition of structures • Traffic adjustment • Haul roads and site amenities • Earthworks • Utility trench and services corridor • Water conveyance structure – construction • Unwin Street Diversion – construction • General operation of ancillary facility • Utility adjustment works
Rosehill[1]	• Diaphragm wall (D-Wall) construction • Diaphragm wall (D-Wall) construction • Box excavation • FRP concrete work • Delivery of equipment • General operation of ancillary facility
Sydney Olympic Park	• No works undertaken

[1] The Clyde Maintenance Stabling Facility consists of three sub-sites, specifically the Clyde Dive, Clyde MSF and Rosehill construction sites.

2 SUMMARY OF RESULTS

2.1 Noise and Vibration

Noise and vibration monitoring undertaken on the WTP Project during the reporting period of 19 July 2022 to 19 January 2023 was in accordance with the Construction Noise and Vibration Management Plan (CNVMP), Noise and Vibration Monitoring Program (NVMoP) and Detailed Noise and Vibration Impact Statement (DNVIS). Attended monitoring was conducted in line with the Project EPL and CNVMP.

Seventy-four attended noise monitoring events resulted in LAeq above the modelled noise limits, however heightened ambient noise levels of the surrounding environment generally appear to be the catalyst for these events.

Unattended vibration monitoring did not result in any exceedance events.

Where ambient noise levels were not responsible for exceedance of noise limits, investigations were undertaken to ensure consistency with plant and equipment modelling and appropriate mitigation measures and strategies were implemented. Site teams were briefed via toolbox talk to ensure awareness of construction methodology and appropriate mitigation measures for each respective activity.

Noise and vibration monitoring will continue to be undertaken in accordance with the Project CNVMP, CNVMonP and DNVIS.

Refer to Attachment A for the detailed Construction Noise and Vibration Monitoring Report (SMWSTWTP-GLO-1NL-NV-RPT-000004) for the reporting period.

2.2 Surface Water Quality Summary

Based on the results and findings of the surface water monitoring, it is recommended that monitoring continues to be undertaken in accordance with the SWMP.

Results obtained from this monitoring period indicate that there has not been a degradation of the surrounding surface water network as a result of construction activities. Results are generally consistent with the adopted assessment criteria and pre-construction baseline water quality data.

Refer to Attachment B for the detailed Surface Water Quality Monitoring Report (SMWSTWTP-GLO-1NL-EN-RPT-000001) for the reporting period.

2.3 Groundwater Summary

Baseline monitoring was completed in July 2022 (12 July – 19 August 2022) and the first quarterly construction monitoring was completed in October 2022 (10 October – 19 October 2022).

The groundwater monitoring network has evolved from the original proposed network as a result of construction activities at the sites. The network for each monitoring round is anticipated to evolve to meet the groundwater monitoring plan objectives as the sites continue to change.

During the October 2022 monitoring event, some results were able to be compared with applicable baseline results from various sources. A number of GWMWs had no applicable reference data available for comparison (newly installed GWMWs).

At present, insufficient data (minimum 3 three rounds required) is available to determine concentration and/or groundwater level drawdown trends with respect to baseline conditions and as such no trigger value exceedances have been identified which required additional monthly monitoring (as defined by Gamuda (2022) Groundwater Monitoring Program).

The groundwater monitoring network will be updated based on the GWMW condition assessment for future monitoring events with consideration given to ongoing works at the site.

The monitoring trends of groundwater decline (in both quality and quantity, if any) will be investigated based on further monitoring events to identify the trends in analytes concentrations and groundwater drawdown.

Refer to Attachment C for the detailed Groundwater Monitoring Report (SMWSTWTP-GLO-1NL-EN-RPT-000005) for the reporting period.

ATTACHMENTS

Attachment A – Construction Noise and Vibration Monitoring Report

Construction Noise and Vibration Monitoring Report

Sydney Metro West – Western Tunnelling Package

July 2022 to January 2023

ISSUE DATE: 16/03/2023

Document Details

Document Title	**Noise and Vibration Monitoring Report**
Project Name	**Sydney Metro West – Western Tunnelling Package**
Client	**Sydney Metro**
GA Project No.	**00013/13065**
Document Reference No.	**SMWSTWTP-GLO-1NL-NV-RPT-000001**
Principal Contractor	**Gamuda Australia**
ABN	**27 632 738 768**
Project Address	**L8, 60 Station Street, Parramatta NSW 2150**

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Rev A	27/01/23	First Draft	D. Mudd	S. Mifsud
Rev B	10/03/23	Revised draft for submission	D. Mudd	S. Mifsud
Rev C	16/03/23	Revised to address Sydney Metro comments, prior to submission	D. Mudd	S. Mifsud

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1 INTRODUCTION

1.1 Background

Sydney Metro West (SMW) is a new underground railway connecting Greater Parramatta and the Sydney CBD. It will provide fast connections between greater Sydney's two major business centres as well as providing better access to the growing business and entertainment precincts in Olympic Park and Pyrmont, the health and medical research hub at Westmead and the future business and tourism site at The Bays.

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1.2 Project Description

Sydney Metro is delivering the Sydney Metro West project via several different packages, including the Western Tunnelling Package (WTP, the Project).

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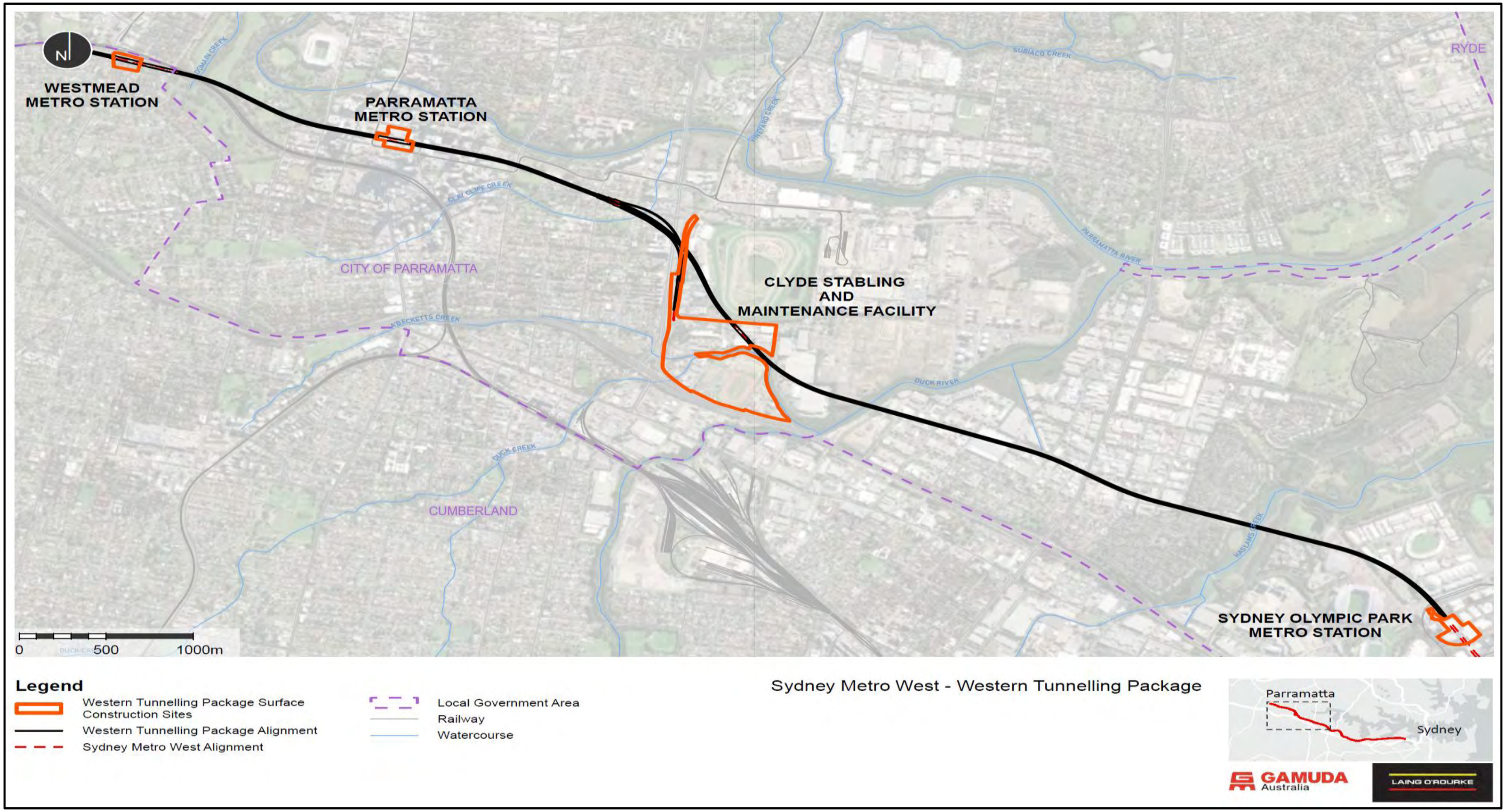

Figure 1 WTP Project Map Overview

1.3 Project Requirements

The Construction Noise and Vibration Monitoring Program (CNVMoP) sets out the requirement to develop and issue a Construction Noise and Vibration Monitoring Report (this report), collating construction noise and vibration monitoring data. This report collates noise and vibration monitoring undertaken during the first six months of construction, from 19th July 2022 to 19th January 2023.

The Project requirements relevant to the preparation of this Monitoring Report are identified in Table 1. A document reference is also included to indicate where the requirement is addressed in this Monitoring Report or other documents. Additional monitoring requirements are outlined in the CNVMoP and construction noise and vibration project requirements are outlined in the Construction Noise and Vibration Management Plan (CNVMP).

Table 1 Monitoring Report Compliance Matrix

Reference	Requirement	Document Reference
Condition of Approval C23	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.	This document
CEMF 8.2	c. Noise and vibration monitoring would be undertaken for construction as specified in the CNVS. d. The following compliance records would be kept by Principal Contractors: i. Records of noise and vibration monitoring results against appropriate NMLs and vibration criteria	This report collates records of noise and vibration monitoring results against appropriate NMLs and vibration criteria, refer Appendices A-C.
REMM NV20	Undertake consultation with the Rosehill Gardens Racecourse and an equine veterinary expert to inform construction noise and vibration objectives for this sensitive receiver. Achievement of objectives are to be demonstrated in accordance with Noise and Vibration Construction Monitoring Program required by Conditions C15 and C16 and would include reference to equine behavioural responses where feasible.	Following completion of the Equine Study, there was no change to Noise Objectives. Data included at Appendices A-C includes monitoring results in accordance with the CNVMoP.
CNVS 6.2	**Noise Monitoring** • Noise monitoring where noise goals predicted to be exceeded • All noise monitoring results would be assessed against the nominated noise goals and compiled into a report to be forwarded to the construction contractor and project manager. • Reporting would be submitted to the construction contractor and project manager within one week of being undertaken or at weekly intervals for continuous monitoring. • All noise monitoring reports would also be made available to the public through a publicly accessible website.	This report includes tabulated monitoring data collected during the reporting period (Section 4.1 of this report). This monitoring report would be made publicly available on the GLC WTP website.
CNVS 6.3	**Vibration Monitoring** • Vibration monitoring where exceedance of cosmetic damage criteria expected, or where human response exceedance is expected and where concerns raised. • All vibration monitoring results would be assessed against the nominated vibration goals and compiled into a report to be forwarded to the construction contractor and project manager. • Reporting would be submitted to the construction contractor and project manager within one week of being undertaken or at weekly intervals for continuous monitoring.	This report includes tabulated monitoring data collected during the reporting period (Section 4.2 of this report). This monitoring report would be made publicly available on the GLC WTP website.

	• All vibration monitoring reports would also be made available to the public through the publicly accessible website.	
CNVMoP	GLC data summary reports presenting tabulated monitoring data collected during the reporting period and highlighting performance criteria exceedances. Applicable management responses will be documented.	This report
CNVMoP	The six-monthly monitoring reports will be provided to the relevant authorities within 40 business days of the monitoring period ending.	Section 1.4

1.4 Endorsement and Publication

In accordance with the CNVMoP, this Construction Monitoring Report has been provided to the independent Acoustics Advisor (AA) and independent Environment Representative (ER) for review and endorsement sought from the AA. Following endorsement, this report will be issued to the DPE and relevant regulatory authorities for information.

In line with CoA B11(e), a copy of the Construction Monitoring Report will be published on the project website within a week following submission to DPE.

2 DESCRIPTION OF WORKS

2.1 Summary of works

The construction activities, and associated plant and equipment used at each of the construction sites, are outlined in Table 2**.** Construction activities are derived from the modelled work scenarios from the Western Tunnelling Package Detailed Noise and Vibration Impact Statement (DNVIS). These activities generally aligned with those observed to be underway on site during the works during the reporting period:

Table 2 Construction Activities undertaken during the reporting period

SITE	CONSTRUCTION ACTIVTIES	EQUIPMENT LIST
Westmead	• Site preparatory works (WM.01) • Initial investigation work (WM.02) • Protecting and/or relocating utilities (WM.03) • Establishing site amenities (WM.05) • Establishing vehicle access and egress points (WM.07) • Establishing concrete slabs or piling platforms (WM.08) • Delivery of Equipment (WM.19) • General operation of ancillary facilities (WM.21)	Plant and equipment consistent with modelling list of the WTP DNVIS (**Appendix B of DNVIS)**
Parramatta	• Site preparatory works (PM.01) • Initial investigation work (PM.02) • Archaeological clearance (PM.03) • Removal and/or relocating utilities (PM.04) • Establishing vehicle access and egress points (PM.07) • Delivery of equipment (PM.16)	Plant and equipment consistent with modelling list of the WTP DNVIS (**Appendix B of DNVIS)**

SITE	CONSTRUCTION ACTIVTIES	EQUIPMENT LIST
	• General operation of ancillary facilities (PM.18)	
Clyde Dive[1]	• Construction site establishment/haul roads (CD.01) • Demolition of former Rosehill station (CD.01b) • Establishing piling platforms (CD.02) • Tree clearing (CD.03) • Shaft excavation and piling (CD.04) • Establishing concrete slabs/acoustic shed (CD.05) • Bulk earthworks (CD.06) • Haul road FRP and hoarding installation (CD.07) • General operation of ancillary facilities (CD.14)	Plant and equipment consistent with modelling list of the WTP DNVIS (**Appendix B of DNVIS)**
Clyde MSF[1]	• Construction site establishment/demolition of structures (MSF.01a) • Traffic adjustment (MSF.01b) • Haul roads and site amenities (MSF.02) • Earthworks (MSF.03) • Utility trench and services corridor (MSF.05) • Water conveyance structure – construction (MSF.07a) • Unwin Street Diversion – construction (MSF.09) • General operation of ancillary facility (MSF.13) • Utility adjustment works (MSF.14)	Plant and equipment consistent with modelling list of the WTP DNVIS (**Appendix B of DNVIS)**
Rosehill[1]	• Diaphragm wall (D-Wall) construction (RH.16a) • Diaphragm wall (D-Wall) construction (RH.16b) • Box excavation (RH.17) • FRP concrete work (RH.18) • Delivery of equipment (RH.19) • General operation of ancillary facility (RH.22)	Plant and equipment consistent with modelling list of the WTP DNVIS (**Appendix B of DNVIS)**
Sydney Olympic Park	• No works undertaken	Not Applicable

[1] The Clyde Maintenance Stabling Facility consists of three sub-sites, specifically the Clyde Dive, Clyde MSF and Rosehill construction sites.

2.2 Noise Management Objectives

The existing noise environment was quantified (via measurement) at representative Noise Catchment Areas (NCAs) surrounding the Project site during preparation of the Environmental Impact Statement (EIS). A summary of the measured ambient and background noise levels (RBLs) are presented in Table 3 below.

Baseline data from the EIS has been reviewed and is representative of ambient noise in the Project area. No further baseline monitoring was undertaken prior to commencement of construction of the WTP.

Table 3 Summary of Project Noise Management Levels

LOCATION ID	NCA	RECEIVER TYPE	NOISE MANAGEMENT LEVEL (dBA)				SLEEP DISTURBANCE SCREENING LEVEL (dBA)
			Approved Construction Hours (RBL +10dB)	Out of Hours (RBL +5dB)			
			DAY	DAY[1]	EVENING	NIGHT	NIGHT
B.02	NCA01	Residential	58	53	51	46	56
B.01	NCA02	Residential	59	54	52	42	52
B.03	NCA03	Residential	68	63	58	48	58
B.04	NCA04	Residential	61	56	53	46	56
B.05	NCA05	Residential	60	55	54	50	60
B.06	NCA06	Residential	62	57	56	49	59
B.07	NCA07	Residential	56	51	49	46	56
B.08	NCA08	Residential	58	53	53	51	61
B.09	NCA09	Residential	58	53	51	46	56

3 MONITORING METHODOLOGY

The monitoring methodology is outlined in the CNVMonP. The methodology has been developed in accordance with the CNVMP, CNVMoP, Detailed Noise and Vibration Impact Statement (DNVIS) and policy, guidelines, and standards as listed below:

- *Interim Construction Noise Guideline* (ICNG) (DECC, 2009)
- *Sydney Metro Construction Noise and Vibration Standard* (Sydney Metro CNVS) (Sydney Metro, 2020).

A summary of the noise and vibration monitoring methodology is provided below.

3.1 Overview

The Construction Monitoring Program outlines the monitoring methodology. Modelling includes but is not limited to monitoring under the following circumstances:

- Commencement of works and at regular intervals throughout works.
- Where it has been identified that activities may exceed relevant noise and vibration goals
- In consideration of a complaint received
- During approved OOHW activities
- As identified by additional mitigation measures
- Where ground-born noise or vibration generating activities are undertaken within safe working distances, and
- Vibration monitoring at sensitive buildings or structures.

3.1.1 Noise Monitoring

The noise measurement procedures employed throughout the monitoring were established in accordance with the requirements of *Australian Standard (AS) 1055:2018 Acoustics - Description and Measurement of Environmental Noise*. Attended noise measurements were conducted by an operator using a calibrated handheld Type 1 'integrating averaging' sound level meter. All measurements were completed with the sound level meter mounted to a tripod and with a windscreen fitted, at a height of 1.2 to 1.5 metres above the ground.

Instantaneous noise levels for all noted noise emission sources (extraneous or otherwise), meteorological conditions (average and maximum wind speeds, temperature, precipitation, and cloud cover etc.) were recorded during all measurements. Relevant measurement parameters (i.e. Leq, Lmin, Lmax, L10 and L90) were recorded in dBA. All noise samples were recorded using the "fast" time response of the sound level meter.

Noise monitoring was not completed within 3.5 metres of any reflective structure or wall, unless behind a barrier. A reduction of up to 2.5 dB was not applied to the measured ambient or site noise contribution (Leq, 15 minute in dBA) as the barrier was reducing noise emissions from site and in general did not increase noise due to the reflective properties of the surface.

Noise monitoring was undertaken to avoid periods of heavy rain and wind speeds exceeding 5 m/s at the microphone. Any noise monitoring data impacted by extraneous weather conditions has been excluded from the report.

3.1.2 Vibration Monitoring

All vibration monitoring results were assessed and reported against the acceptable values of human exposure and structural/cosmetic damage outlined in the Sydney Metro CNVS the CNVMP.

Unattended vibration monitoring was undertaken with due regard to and in accordance with the requirements of the Sydney Metro CNVS and ICNG using a calibrated vibration logger.

The monitoring device was placed (fixed to the structure or embedded in the ground nearby the structure) at the potentially most affected receiver/s or structure/s prior to works commencing.

The device was set to continuously record vibration levels (PPV data in mm/s) at sample intervals (e.g. 5 second, 15 second or 1 minute) appropriate to the activity.

3.1.3 Sound Power Level Monitoring

Plant and equipment Sound Power Level (SWL) monitoring was undertaken during the reporting period, however is not included in the scope of this report.

3.2 Monitoring Equipment

All noise and vibration measurements were conducted by suitably experienced and qualified personnel with due regard to, and in accordance with, the relevant local and international standards for environmental monitoring.

Noise and Vibration equipment was calibrated and checked to the manufacturer's specification, with certification at intervals not exceeding one year at the time of use. Calibration certificates can be provided upon request.

The equipment used for monitoring are as follows:

- Site Hive Hexanode Multi (real time noise monitor)
- Rion NL-52 handheld noise monitor
- Omnidots SWARM V2.2cw vibration monitor.

3.3 Monitoring Locations

Generally, noise monitoring was carried out at the most sensitive receivers and as prescribed in the DNVIS. GLC has determined the most appropriate monitoring locations based on construction activities, community feedback and location of Out of Hours Works (OOHW) activities. Maps outlining the monitoring locations for the reporting period can be found in Appendix A.

4 RESULTS

4.1 Noise Monitoring

During the reporting period a total of 190 attended monitoring sessions were recorded. A total of 74 monitoring recordings were identified to be above the noise management levels (NML). The results of these exceedances can be found in Table 4.

The attended noise monitoring results where an NML was not exceeded for the reporting period can be found in Appendix B.

During the reporting period, unattended noise monitoring was also undertaken, and results have been included at Appendix C.

4.2 Vibration Monitoring

All vibration monitoring sessions during the reporting period were undertaken using real-time monitors that were relocated for various site-specific activities. The monitors were located on the boundary of the nearest sensitive receiver, closest to the activity. During the reporting period unattended vibration monitoring was undertaken as described in Section 3.1.2 of this report. The results of these exceedances can be found in Appendix D.

All unattended vibration monitoring data can be provided upon request.

Table 4 Noise Event Exceedance Summary Table

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
25/07/2022	9:59 AM	Parramatta	211 Church Street, Parramatta	Construction works including operation of telehandler completing site establishment works and concrete saw completing saw-cutting for concrete slabs along western boundary of site (Church Street)	61	70	77.2	85.8	61.6	63.9	Monitoring undertaken outside of commercial premises at 211 Church Street - note that NML's for commercial residences is 70dBA. Note that works have been compared against NML's for PM.06 Establishing WTP's as use of concrete saws had been modelled. During monitoring, site establishment works being completed including the operation of telehandler and concrete saw for saw-cutting of concrete slabs. Note: noise mats set-up prior to concrete saw commencing works; respite periods being implemented during the works (3 on: 1 off).
27/07/2022	9:02 AM	Clyde Dive	ATC Stables Unwin St	Concrete Crushing at Rosehill	60	60	66	80.7	52.6	55.1	Monitoring distance to source: 157m, Distance of source to receiver: 150m. Monitoring location: South on ATC stables on Unwin St. Main source of noise: trucks and cars along Unwin St - approx. one every 10-30 seconds with recordings between 63dB - 78dB during passing. Concrete crushing was only audible when measurements dropped below 58dB.
1/08/2022	9:22 PM	Clyde Dive	Clyde Dive - NCA 05	NDD for builders pole	66	54	70.2	82.8	54.9	68.4	NDD works only audible at 58dB in between traffic. Traffic on James Ruse Drive dominate source of noise. NDD works consistent with predicted modelling and all mitigation measures implemented.
1/08/2022	9:55 PM	Clyde Dive	Clyde Dive - NCA 04	NDD for builders pole	57	53	71.5	81.9	48.5	56.7	NDD works inaudible during monitoring. Traffic on James Ruse Drive main source of noise. NDD works consistent with predicted modelling and all mitigation measures implemented.
1/08/2022	11:54 PM	Clyde Dive	Clyde Dive - NCA 05	Vacuum truck - services location	66	50	70.3	89.9	47.1	61.3	Vacuum truck LAF was between 58dB and 66dB. Traffic on JRD was main source of noise with LAF between 65dB and 85dB. NDD works consistent with predicted modelling and all mitigation measures implemented.
2/08/2022	9:13 AM	Parramatta	211 Church Street, Parramatta	Saw cutting removal for concrete slabs; telehandler operation and site investigations for heritage/contamination with 14T excavator.	61	70	72.1	81.3	57.9	59.8	Monitoring undertaken at closest receiver = commercial premises = 70dBA = 23m from works. Activities compared to PM.06 Establishing WTP scenario Mitigation measures in place for works including noise blankets, respite periods and attended monitoring.
2/08/2022	11:29 AM	Parramatta	Rear 240 Church Street, Parramatta	Saw cutting for removal of concrete slabs, site investigations for heritage/contamination, telehandler operations;	59	70	77.7	85.4	61.1	63.6	Monitoring undertaken at closest receiver = commercial premises = 70dBA = 33m from works. Activities compared to PM.06 Establishing WTP scenario Mitigation measures in place for works including noise blankets, respite periods and attended monitoring.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
				site establishment and deliveries.							
2/08/2022	10:13 PM	Clyde Dive	Clyde Dive - NCA 05	NDD Vacuum truck - locating services	66	50	73.5	86.2	53.7	64.2	Traffic on James Ruse Drive main source of noise. During breaks in traffic works recorded at 64dB.
2/08/2022	10:41 PM	Clyde Dive	Clyde Dive - NCA 04	Service connection to existing LV pole	57	46	72.7	88.3	49.4	57.1	Work inaudible at receiver. Traffic on James Ruse Drive main source of noise.
10/08/2022	8:11 PM	Rosehill	ATC Stables - Unwin Street	D-Wall Cutting	58	60	60.2	82.2	47.1	49.6	Monitoring distance to source: 223m Monitoring location: 241m Main source of noise: Trucks and cars along Unwin Street with recordings between 59dB- 80dB D-wall cutting was only audible when measurements dropped below 52dB Compliant with DNVIS modelling and all mitigation measures implemented.
23/08/2022	10:26 PM	Westmead	23-25 Priddle Street, Westmead	Topographical Survey - Priddle Street & Hawkesbury Road Intersection	42	42	54	69.5	47.8	50.3	Noise Monitoring 0032 Monitor Calibration 94.3 dB LAeq are over predicted levels, more noise monitoring need to be undertaken for these works to confirm and assess the noise levels are within the NML established for NCA02, The weather conditions and wet road clearly affected this measurements
24/08/2022	7:33 PM	Westmead	23-25 Priddle Street, Westmead	Topographical Survey - Priddle Street & Hawkesbury Road Intersection	52	52	55.8	75.7	47.4	49.8	Noise Monitoring 0034 Monitor Calibration 94.2 dB Topographical survey intersection Priddle Street & Hawkesbury Road; low noise impact levels from this activities. Works were being completed under LIW, traffic noise are the biggest contributor. Background traffic levels louder than RBL for NCA02
24/08/2022	9:40 PM	Westmead	23-25 Priddle Street, Westmead	Topographical Survey Priddle St and Hawkesbury Road Intersection	52	52	56.2	77.9	47	50.3	Noise Monitoring 0035 Monitor Calibration. Topographical survey intersection Priddle Street & Hawkesbury Road; low noise impact levels from this activities. Works were being completed under LIW, traffic noise are the biggest contributor. Background traffic levels louder than RBL for NCA02
24/08/2022	10:10 PM	Westmead	23-25 Priddle Street, Westmead	Topographical Survey Priddle St and Hawkesbury Road Intersection	42	42	54.3	74.8	46.3	48.7	Noise Monitoring 0036 Monitor Calibration. Topographical survey intersection Priddle Street & Hawkesbury Road; low noise impact levels from this activities. Works were being completed under LIW, traffic noise are the biggest contributor. Background traffic levels louder than RBL for NCA02
25/08/2022	12:01 AM	Westmead	23-25 Priddle Street, Westmead	Topographic Survey - Priddle Street & Hawkesbury Road Intersection	42	42	47.6	71.3	41.1	43.2	NM 0037 Monitor Calibration 94.2 dB GLC's works compliant and faintly heard over RBL traffic noise, low noise impact activities. Works were being completed under LIW and background levels were elevated

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
											(biggest contributor see minute table). Background traffic levels louder than RBL for NCA02
25/08/2022	8:37 PM	Westmead	19 Hassall Street, Westmead	Topographical Survey - Bailey St & Hassell St Intersection	52	52	56.2	76.8	46.8	49.2	Noise Monitoring 0038 Monitor Calibration 94.2 dB. Topographical survey intersection Priddle Street & Hawkesbury Road; low noise impact levels from this activities. Works were being completed under LIW, traffic noise are the biggest contributor. Background traffic levels louder than RBL for NCA02
25/08/2022	10:42 PM	Westmead	26-30 Bailey Street, Westmead	Topographical Survey Bailey St & Hassell St intersection	42	42	56.3	80.8	46.7	48.9	Noise Monitoring 0039 Monitor Calibration 94.2 dB. Topographical survey intersection Priddle Street & Hawkesbury Road; low noise impact levels from this activities. Works were being completed under LIW, traffic noise are the biggest contributor. Background traffic levels louder than RBL for NCA02
27/08/2022	9:10 PM	Parramatta	74 Pitt Street, Parramatta	Topographical Survey - Pitt Street & Great Western Hwy	58	58	64.2	85	48.5	57.1	Monitor Calibration 94.2 dB Noise Monitoring 0040 Traffic on both roads major noise contributor as per minute by minute table. Topographical activities are considered low noise activities
27/08/2022	10:38 PM	Parramatta	74 Pitt Street, Parramatta	Topographical Survey Pitt Street & Great Western Hwy Intersection	48	48	62	79.4	46	51.7	Monitor Calibration 94.3 dB Noise Monitoring 0041 Noise Monitor Location near to Parramatta High School Traffic on both roads major noise contributor as per minute by minute table. Topographical survey activities are considered low noise activities
30/08/2022	7:57 PM	Parramatta	95 Harris Street, Parramatta	topographical Survey for existing road intersection at Parkes & Harris Street, Parramatta	53	53	67.1	89.8	51	56.5	Background noise monitoring completed prior to planned out of hours works commencing. Background readings already exceeding RBL and NML's for NCA-04 during evening hours. No construction or planned works being completed during this monitoring event.
30/08/2022	8:55 PM	Parramatta	95 Harris Street, Parramatta	Topographical survey of existing intersection at Parks & Harris Streets, Parramatta	53	53	56.8	85.8	42.8	47.3	Monitoring completed for topographical survey works under OOHW Permit PARRA-001. Survey works inaudible over background traffic noise (i.e. traffic passing through intersection). OOHW activities being undertaken under EPL Condition L5.3 (i.e. <5dBA above RBL). Monitoring activities have confirmed that construction activities are inaudible during the evening-time period.
30/08/2022	10:00 PM	Parramatta	95 Harris Street, Parramatta	Topographical survey works at existing road intersection of Parkes & Harris Streets, Parramatta	46	46	60.2	72.9	56.4	56.8	Monitoring completed for topographical survey works under OOHW Permit PARRA-001. Survey works inaudible over background traffic noise (i.e. traffic passing through intersection and passing pedestrians). OOHW activities being undertaken under EPL Condition L5.3 (i.e. <5dBA above RBL).

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
											Monitoring activities have confirmed that construction activities are inaudible during the night-time period.
1/09/2022	9:34 PM	Parramatta	1 Macquarie Street, Parramatta	Surveilance works, TC on Oconnell x george st junction LAW	70	70	70.1	95.7	50.2	54.7	RBL was higher due to fluctuations of high traffic [NRL game occurring at the commbank arena]. Survey works generally very quiet, TC were not idling their utes, police were assisting with mobilising traffic due to NRL game. Very quiet, VFT workers along footpath. LaMax was a result of loud traffic, occasional pauses in noise monitoring due to loud drunk crowd
6/09/2022	11:34 PM	Clyde Dive	NCA_05 - 88 James Ruse Drive, Rosehill	Barrier Installation	66	50	71.7	85.3	51.7	59.9	Monitoring distance to source: 36m. Distance of source to receiver: 40m. Equipment Used: 5T excavator, tipper truck, franna, hand tools. Traffic on James Ruse Drive main source of noise. Traffic constant (65dB-75dB) with large truck every 1-2 minutes (75dB-85dB). Works only audible during breaks in traffic (approx. 63dB). Works in line with modelling and required mitigations measures per OOHW permit.
6/09/2022	10:27 PM	Parramatta	5/111 George Street, Parramatta	Topographical Survey - Utilities Location	48	48	55.7	72.8	52.1		Monitoring distance to source: 90m. Distance of source to receiver: 95m. Works not audible at receiver. Traffic along George St main source of noise. Works consistent with modelling and implemented mitigation strategies as per OOHW permit.
8/09/2022	8:38 PM	Clyde Dive	NCA_05 - 88 James Ruse Drive, Rosehill	Vegetation clearing	66	54	70	81.2	51.9	63.4	Monitoring distance to source 44m. Source distance to receiver 48m. Electric chainsaw in use for vegetation clearing. Dominant source of noise: Traffic on James Ruse Drive. Works only audible during breaks in traffic (60dB-63dB). Result: compliant. Noise levels in line with modelling and required mitigation strategies
13/09/2022	8:54 AM	Westmead	13-17 Bailey Street, Westmead	Hoarding walls activities	58	59	65.2	82.1	48.8	56.6	NM 0046 dB; Monitor Calibration 94.2 dB Hassall St. Noises at the monitor location are over the NML; screwing timber and metal post activities generate the highest noise during monitoring. These activities have been undertaken during the standard approved hours, and each screwing takes between 2- 3 secs.
21/09/2022	3:41 PM	Westmead	13-17 Bailey Street, Westmead	Construction activities included site establishment for earthworks on office pad using a 20T excavator, positrak and 12T smooth drum roller; hoarding	58	59	61.4	77.3	49.3	52.5	Monitoring being completed in response to complaint received for the operation of the smooth drum roller. Smooth drum roller was operational throughout monitoring round and audible as a low hum:. Vibratory rolling works completed by 4:22pm. Mitigation measures in place with community notifications made and respite periods in place during the works.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
				installation works along Alexandra Avenue.							Noted that traffic volumes were significantly higher than previous monitoring round at 1:51pm with school and train traffic audible.
26/09/2022	9:45 AM	Clyde Dive	NCA-05 James Ruse Dr off ramp	Vegetation clearing	66	60	75	92.5	59.3	63.5	Monitoring distance to source: 40m. Distance of source to receiver: 45m. Traffic on JRD on ramp main source of noise. Vegetation clearing only audible during infrequent breaks in traffic and at 60-64dB which is in line with modelling and NML.
29/09/2022	9:55 PM	Westmead	7 Park Parade, Westmead	DSI - HV Utility works (Section 3)	65	52	81	96.6	54.9	64.9	NM 0050; Monitor Calibration 94.3 dB; The monitor location was 5 m away to the source and 11 m away to the sensitive receiver (outside of the house boundaries) . The excavation for the TP08 took around 4 mins to be completed, for next stages of these works it's recommended to set up noise blankets to reduce noise levels
30/09/2022	2:01 AM	Parramatta	14 Pitt Street, Parramatta	DSI - HV Utility works (Section 5)	57	48	57.5	86.5	37.8	42.8	NM 0054; Monitor Calibration 94.4 dB; Noise levels from dry suction excavation are consistent with NCA03 NML
5/10/2022	8:32 PM	Parramatta	180 George Street, Parramatta	Storm water drainage investigations	58	58	63.7	74.5	52.4	55.3	Monitoring distance to source: 30m. Distance of source to receiver:34m. Works non audible during monitoring. Traffic on smith street main source of noise. Rain on ground and nearby rooftop always increasing measurement readings notably LA90. Result: compliant with modelling and mitigation measures implemented.
6/10/2022	9:29 AM	Clyde Dive	NCA 04 - 120 James Ruse Drive	Shaft excavation - hammering	76	61	79.1	92	61.3	68.9	Monitoring distance to source: 50m. Distance of source to receiver: 60m. Main source of noise: traffic on JRD (77-87 dB) Works were only audible for brief moments in between traffic (64-65dB). Mitigation measures: 3 hours on and 1 hour off implemented given annoyance of sound; Community notification given line to life noise level. Result: Compliant. Noise level in line with DNVIS modelling CD.04
22/10/2022	9:10 AM	Clyde Dive	3 Weston Street, Rosehill	Vegetation clearance	56	61	72.3	91.3	54.5	62.3	Chainsaw and mulcher very intermittently used. active <10% of monitoring period. Noise monitoring compliant, traffic dominant noise source
22/10/2022	9:38 AM	Parramatta	12 Pitt Street, Parramatta	Concrete saw cutting for Section 5 trenches of WM to PM HV Utility Works	72	68	73.8	102.4	46.5	55	Verification noise monitoring for concrete cutting works in Section 5 of the WM to PM HV Utility Works. Traffic and trains passing the monitoring location are the dominant source if noise during the monitoring event. Noise mats in place prior to works commencing as works are considered high noise impact works.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
22/10/2022	10:09 AM	Parramatta	2-4 Pitt Street, Parramatta	Concrete cutting activities for slit trenches in Section 5 of the WM to PM HV Utility Works	64	68	70	97.6	46	52.4	Verification monitoring for concrete cutting works to support slit trenches in Section 5 of HV Utility works. Noise mats in place at commencement of works due to high noise impact works being undertaken. Traffic and trains passing the monitoring location were the main source of noise during the monitoring event.
25/10/2022	8:58 PM	Parramatta	338 Church Street, Parramatta	HV utilities - Trenching to identify services location along George St	54	58	63.4	84.7	56.8	59.2	Results related to the ambient noise of the area , HV utility activities are inaudible (trenching on George St - Wet vac truck)
25/10/2022	11:36 AM	Westmead	26-30 Bailey Street, Westmead	Spoil loading and haulage out of Bailey Street gate; street-sweeping and water truck operation to clean roadways.	71	59	71.6	93	50.3	53.3	Monitoring being completed following street sweeper operation on Bailey Street. Street sweeping works were being completed to ensure compliance with Project requirements for keeping public roadways clean. Construction activities were audible and being managed in accordance with the NVMP and DNVIS. SPL Monitoring completed on street sweeper to verify equipment was in compliance with SPLs specified in NSW ICNG. As a further mitigation measure, frequency of street sweeper being reviewed with the site team as sweeper passed by monitoring location three (3) times over 15-minute monitoring period.
26/10/2022	12:16 AM	Parramatta	338 Church Street, Parramatta	HV utilities - Trenching to identify services location along George St	54	48	57.1	73.6	48.9	51.8	Results related to the ambient noise of the area , HV utility activities are inaudible (trenching on George St - Wet vac truck)
1/11/2022	4:00 PM	Westmead	1 Bailey Street, Westmead (Park side)	Street Cleaning	52	59	60	85.5	49.5	52.4	The traffic frequency on Park Parade and Alexandra Ave was clearly audible during the monitoring. During the noise monitoring the street sweeper and water truck passed the location on one occasion. According the site team these vehicles are attending this location up to five times a day to provide water for site activities.
8/11/2022	10:35 AM	Parramatta	76-78 Macquarie Street, Parramatta	Concrete sawcutting DSI	70	70	72.2	82.3	67.8	69.2	Noise mitigation measures in place with sound barriers. Works occurred after 1030am, will follow respite period as required Noise levels were compliant and under predicted. Works occurred between 70-73dB. The exception of the LaMAX was due to man shouting at traffic controller. For MW26 - Macquarie Lane

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
8/11/2022	11:38 AM	Parramatta	76-78 Macquarie Street, Parramatta	Wetvac excavating material under concrete slab	70	70	76.2	85.6	65.8	74	For MW26 - Macquarie Lane
10/11/2022	9:25 PM	Westmead	7 Park Parade, Westmead	HV Utility Works - Excavation - Section 3	57	52	62.9	87.7	41.4		Monitoring location was situated in front of 7 Parade Road adjacent to a main street. There was heavy traffic during the time of monitoring. The western train line runs adjacent to this main road. It was observed as trains and all other vehicles e.g. buses, utes and trucks were audible and generated a higher reading. Monitoring included 2 x excavators and 1 x vac truck in operation with no noise blankets.
11/11/2022	11:37 PM	Westmead	7 Park Parade, Westmead	HV Utility Works - Excavationc - Section 3	57	42	61.5	79.8	36.1		Monitoring location was situated in front of 7 Parade Road adjacent to a main street. The western train line runs adjacent to this main road. Traffic had subsided as observed from the first monitoring. Trucks and Trains were audible and generated higher readings during monitoring. During periods that included only 2 excavators in operation and cars passing by the db was under the predicted 60 db (e.g. 1-4 mins)
17/11/2022	1:00 AM	Parramatta	14 Pitt Street, Parramatta	Trenching S5	50	48	51.8	63.5	42.6	45	Humming from vac truck audible, Occasional cars passed causing spikes in noise monitoring. Vac truck ranged between 42-46db. Compliant
17/11/2022	12:42 AM	Westmead	2-6 Priddle Street, Westmead	S5 works silt trenching	47	42	51.3	63	32	36	No construction audible, Dominant noise source from freight train.
17/11/2022	9:46 PM	Westmead	152 Hawkesbury Road, Westmead	MMA Sawcutting	67	52	75	83	49	51	Full attenuation around works, high intensive. Works were not ongoing. Sawcutting completed within 10min, rockhammering completed in 5mins
17/11/2022	10:05 PM	Westmead	26-30 Bailey Street, Westmead	Utilities works	41	52	53	73	38	41	Construction works inaudible, Resident ambient noise dominated Cars passing caused spikes
17/11/2022	10:44 PM	Westmead	152 Hawkesbury Road, Westmead	Vac truck utilities work	67	42	69	77	66	67	Noise levels were maintained. Attenuation around the area was very limited due to metal barriade

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
22/11/2022	9:13 AM	Parramatta	13 Oak Street, Parramatta	DSI - Stage 1 -Vac Truck at BH32 & BH33	81	61	82.9	90.1	67.5	71.9	Verification monitoring for BH32 & BH33 - Stage 1 vac truck; Works audible at closest receivers; Due to layout of work area with active traffic lanes noise mats were unable to be installed between receiver and work activities; Background noise including traffic audible over construction works at times.
23/11/2022	9:52 PM	Westmead	11 Bailey Street, Westmead	HV S2 Trenching & Conduits	46	52	55.8	67	47.5	54.3	HV S2 - Trenching & Conduits inst Works under OOHW -WEST002 Equipment Used: - 1 Wet Vac truck - 1 Excavator 6T - 1 Solar Light tower The noise levels from excavation without traffic varie between 54 dB to 57 dB (as per minute table)
28/11/2022	9:50 PM	Parramatta	80-100 George Street, Parramatta	DSI saw cutting hole MW24	53	70	70.5	100.1	55.4	57.9	Monitoring 20m from receiver - this is a hotel/restaurant complex. Noise matts installed around all equipment including saw cutter. Main source of noise: demolition of parking lot 40m from monitor. Loud banging and metal cutting. Works compliant with modelling and mitigation measures installed Monitoring for MW24 - Barrack Lane works
28/11/2022	10:29 PM	Parramatta	180 George Street, Parramatta	DSI - Vac truck NDD	48	48	63.1	90.4	49.2	52.2	Light rail utility works main source of noise. DSI works not audible. Source of localised noise from other project works. Monitoring for MW24 - Barrack Lane Works
28/11/2022	11:21 PM	Westmead	29 ParkviewLane, Westmead	Section 4 - trenching works	45	42	49	70.2	34.4	37.3	Works only audible during Vac truck works. Trains significant factor in reading. Helicopter low overhead for 2.5 minutes. Other utilities work attached to our ROL. They are pouring concrete and cutting. Compliant with modelling and mitigation measures implemented
29/11/2022	10:00 PM	Westmead	29-30 Parkside Lane, Westmead	Section 4 utilities work - trenching	45	42	48.4	76.2	39.1	41.6	Wind gusts, planes and trains main source of noise. Non tonal reversing alarm employed by non project works near leisure centre. Works inaudible during monitoring. Compliant with noise modelling and mitigation measures implemented
1/12/2022	9:01 PM	Westmead	156 Hawkesbury Road, Westmead	MW47 - Stage 1 (DSI with Vac truck)	67	52	68.9	94.7	52.7	57.1	Monitoring distance to source: 40m. Distance of source to receiver: 50m. Noise blankets installed around vacuum truck. Vac truck readings in between traffic: 67-69dB. Main source of noise: traffic along Hawkesbury Road: 61-70dB. Compliant with modelling and implemented mitigation measures.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
7/12/2022	7:20 AM	Clyde Dive	ATC Stables - southern boundary	Spoil load out from MSF stockpile area	60	60	70.2	89.5	56.8	60.6	Distance of source to monitor: 50m. Distance of source to receiver: 60m. Main source of noise: traffic on unwin street. Machine idling and set up was monitored at 58-60dB in line with modelling. Works spiked in noise when spoil was dropped into truck and dog: 66-75dB. While noise was audible during breaks in traffic it was not the main source of sound. Works slightly louder than traffic on M4.
7/12/2022	10:25 PM	Parramatta	80 Hassall Street, Parramatta	Stage 2 - Drilling of monitoring well with auger drill	72	70	74.4	105.9	56.9		Noise mats installed. Monitoring location across the road from the work area. Monitoring was conducted right next to the main road (Hassall Street). There was an even flow of traffic throughout the 15 mins. Works were audible from monitoring location. Majority of the noise level increases were generally from vehicles, buses and trucks. For BH34 - Hassall Street
10/12/2022	11:56 AM	Clyde Dive	3 Weston Street, Rosehill	Clyde Dive - Concrete pours	55	61	74.3	87.1	56.5	64	Attempted to get a reading in isolation but was unable to due to vehicle traffic from both directions. Monitoring was conducted from 3 Weston Street right next to main road James Ruse Drive. Construction works were audible, however traffic noise was significantly louder. Heavy traffic from both ends, 6 lane traffic majority of the monitoring period was observed.
10/12/2022	10:20 AM	Rosehill	ATC Stables	D-wall cutting & grab	61.6	60	63.9	95.9	47.4	49.9	Monitoring conducted by the road outside of the ATC stables. Monitoring construction works in isolation was possible (no traffic flow, planes overhead) and appeared to be below the predicted noise levels, see notes for further breakdown. Noise level increases were from heavy trucks passing by.
12/12/2022	10:44 PM	Parramatta	14 Pitt Street, Parramatta	Trenching	50	48	55	71	43	47	Lipman contractors were doing vac truck works at the corner of pitt st and park st, All GLC works were not audible, Vehicles driving past and aquatic centre oohw were most audible
13/12/2022	8:00 AM	Westmead	154 Hawkesbury Road, Westmead	Bored Piling Works	61	59	75.7	94.9	58.1	63	Verification monitoring for bored piling works to confirm if works are high noise and respite periods are required; Other construction works including excavators x 2 and vibratory rolling for pilng pads; Construction works audible at receiver; Background noise including traffic and trains audible over construction works during monitoring event
14/12/2022	6:04 PM	Parramatta	28 George Street, Parramatta	Hand Tools Only Curing Process for Bentonite Slab	50	55	61	85	50	53	Works were visible from.monitoring location - this is an educational institution. Works were not audible, hand tools were being observed in use. Laeq exceeded PNL due to ambient road activities, people shouting, traffic Works were compliant and not audible

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
15/12/2022	6:47 PM	Westmead	10 Hassall Street, Westmead	Concrete finishing works	57	52	61.5	95.5	45.8	49	Distance to work: 7m distance of work to receivers: 20m. Works partially audible during breaks in wind and traffic yet never main source of noise. Only hand tools in use. Main source of noise: traffic on Hassel Street (60-75dB). Works consistent with permit and modelling.
15/12/2022	9:53 PM	Westmead	10 Hassall Street, Westmead	Low load leaving site - moxi	66	52	71.6	98.7	46.9	52.9	Distance of source to monitor: 25m. Distance of source to receiver: 25m. Traffic main source of sound. Loading was audible but at acceptable levels. Works only audible for 4-5 minutes. Compliant with mitigation measures implemented
17/12/2022	10:12 AM	Clyde Dive	3 Weston Street, Rosehill	Drilling Borehole on Rosehill Race course carpark	67	61	77	92	59	67	Drill rig not audible, rattlegun echo from acoustic shed construction more audible. JRD traffic most audible. Noise attenuation is set up around works
10/01/2023	9:56 PM	Parramatta	106 Arthur Street, Parramatta	Immobile TC at MW19 - Arthur Street	53	53	58	73	43	46	TC was not on, Spikes were majorly from traffic, Works were compliant
11/01/2023	10:00 PM	Parramatta	80-100 George Street, Parramatta	Drilling BH36 on Macquarie Lane	54	60	61	72	51	54	Construction was not audible. Adequate noise attenuation was erected at Macquarie Lane. Bar music and traffic were loudest noise generators. Works were compliant and not audible. This is a hotel/restaurant complex
16/01/2023	9:53 PM	Parramatta	79 Hassall Street, Parramatta	BH35 (Alfred Street) Site Establishment	65	53	75.9	816	64	73.9	Monitoring distance to source 4m away. Monitoring location conducted adjacent to main road and intersection of Hassall and Alfred Street. Vac Truck in operation throughout the whole monitoring period. Main source of noise was Vac Truck. Local traffic noise was also audible during monitoring period. Noise mats installed as per OOHW mitigation measures. No concrete saw used.
16/01/2023	11:15 PM	Parramatta	14 Pitt Street, Parramatta	HV works - Section 5 Trenching	50	48	57.6	80.9	40.7	46.5	Monitoring distance to source 90m away. Monitoring location conducted adjacent to main road Pitt Street, Parramatta. Works audible during breaks of vehicle and pedestrian traffic (47-49db). Traffic main source of sound.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
17/01/2023	9:35 PM	Parramatta	79 Hassall Street, Parramatta	DSI - BH35 Stage 2 Drilling works with auger	59	53	64.7	90.4	61.6	62.9	Monitoring distance to source 4m away. Monitoring location conducted next to main road Hassall Street and Alfred Street. Noise mats installed around works as per OOHW mitigation measures. Traffic main source of noise.
17/01/2023	10:15 PM	Parramatta	79 Hassall Street, Parramatta	DSI BH35 Stage 2 Drilling	59	46	65	85.6	61.4	62.6	Monitoring distance to source 4m away. Monitoring location conducted next to main road Hassall Street and Alfred Street. Noise mats installed around works as per OOHW mitigation measures. Traffic and generators main sources of noise. Spike in noise levels during auger ramming into ground for soil density (68-80db)
17/01/2023	1:36 PM	Westmead	21-23 Railway Parade, Westmead	Piling Works, piling rig located at Pad 1	56	58	63.4	86.2	51.1	55.7	Monitoring distance to source is 124m away. Monitoring location conducted corner of Railway Parade and Ashley Lane. Works were audible in breaks of traffic with a reading of 57-65dB. Other sources of noise that created spikes were from local vehicle traffic, pedestrians and trains arriving and departing from Westmead Station.

5 CONCLUSION

Noise and vibration monitoring undertaken on the WTP Project during the reporting period of 19 July 2022 to 19 January 2023 was in accordance with the CNVMP and NVMoP. Attended monitoring was conducted in line with the Project EPL and CNVMP.

Seventy-four attended noise monitoring events resulted in LAeq above the modelled noise limits, however heightened ambient noise levels of the surrounding environment generally appear to be the catalyst for these events.

Construction activities were not responsible for any vibration monitoring exceedances.

Where ambient noise levels were not responsible for exceedance of noise limits, investigations were undertaken to ensure consistency with plant and equipment modelling and appropriate mitigation measures and strategies were implemented. Site teams were briefed via toolbox talk to ensure awareness of construction methodology and appropriate mitigation measures for each respective activity.

Noise and vibration monitoring will continue in accordance with the Project CNVMP, CNVMonP and DNVIS.

APPENDICES

Appendix A – Monitoring Locations


PM.001
PM.002
PM.003
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PM.011
PM.012
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PM.020
PM.021
PM.022
PM.023
PM.024
PM.025
PM.026
PARRAMATTA
HARRIS PARK
LEGEND
Noise Monitoring Location
Tunnel Alignment
Approved Construction Boundary
Project Site
Temporary Area
Suburb Boundary
CLIENT
TfNSW
PROJECT
SMW WTP
SCALE: 1:5,000 (at A3)
PROJECTION: GDA2020 MGA Zone 56
TITLE
Noise Monitoring from 19 July 2022 to 19 January 2023
Parramatta Map
DATE 08 MARCH 2023
PREPARED DD
REVIEW DM
APPROVED DM
REVISION 01
SHEETS SHEET 3 of 4

LEGEND
- Noise Monitoring Location
- Tunnel Alignment
- Approved Construction Boundary
- Project Site
- Temporary Area
- Suburb Boundary

CLIENT
TfNSW

PROJECT
SMW WTP

SCALE: 1:6,500 (at A3)
PROJECTION: GDA2020 MGA Zone 56

TITLE
Noise Monitoring from 19 July 2022 to 19 January 2023
Clyde Map

DATE	08 MARCH 2023
PREPARED	DD
REVIEW	DM
APPROVED	DM
REVISION	01
SHEETS	SHEET 2 of 4

LEGEND
- Noise Monitoring Location
- Tunnel Alignment
- Approved Construction Boundary
- Project Site
- Temporary Area
- Suburb Boundary

CLIENT
TfNSW

PROJECT
SMW WTP

SCALE: 1:4,000 (at A3)
PROJECTION: GDA2020 MGA Zone 56

TITLE
Noise Monitoring from 19 July 2022 to 19 January 2023
Sydney Olympic Park Map

DATE	08 MARCH 2023
PREPARED	DD
REVIEW	DM
APPROVED	DM
REVISION	01
SHEETS	SHEET 1 of 4

Appendix B – Noise Monitoring Summary

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
26/07/2022	8:13 AM	Clyde Dive	ATC Stables	Vegetation Clearing	82	60	63.6	83.6	57.5	60	Raw output: 63.6dB, Monitoring distance to source: 90m, Distance of source to receiver: 106m, Works barely audible with traffic being dominate noise source. Result: Compliant with LIW03.
27/07/2022	9:02 AM	Rosehill	ATC Stables Unwin St	Concrete Crushing at Rosehill	60	60	66	80.7	52.6	55.1	Raw Output: 66dB. Monitoring distance to source: 157m, Distance of source to receiver: 150m. Monitoring location: South on ATC stables on Unwin St. Main source of noise: trucks and cars along Unwin St - approx. one every 10-30 seconds with recordings between 63dB - 78dB during passing. Concrete crushing was only audible when measurements dropped below 58dB. Results: Compliant
27/07/2022	9:02 AM	Rosehill	ATC Stables - Unwin Street	Concrete Crushing	60	60	66	80.7	52.6	55.1	Raw Output: 66dB. Monitoring distance to source: 157m, Distance of source to receiver: 150m. Monitoring location: South on ATC stables on Unwin St. Main source of noise:trucks and cars along Unwin St - approx. one every 10-30 seconds with recordings between 63dB - 78dB during passing. Concrete crushing was only audible when measurements dropped below 58dB. Results: Compliant
28/07/2022	9:27 AM	Clyde Dive	ATC Rosehill Gardens Entry Gate B	Piling Pad Construction - Stage 01	60	70	55.3	74.7	52.9	57.4	Raw Output: 61.3 dBA. Monitoring distance to source: 17m, Distance of source to receiver: 35m. Approx. 1/2 distance to receiver therefore -6 dB deduction. 61.3dB - 6dB = 55.3 dB. Main source of noise: trucks along JRD. Both excavator and roller were audible during measurements of 55dB-58dB and peaked at 67dB for short periods of time . Result: Compliant with DNVIS Modelling
29/07/2022	12:21 PM	Westmead	26-30 Bailey Street, Westmead	Test Pit 009 - Vac Truck; dewatering	78	59	58.8	73.4	51	55.2	Monitor calibration 94.3 dB GLC works compliant and faintly heard over RBL traffic noise. Mitigation measures in place (noise fences around pump), works were being completed under LIW05.
29/07/2022	5:25 PM	Westmead	19 Hassall Street, Westmead	No activities on site	N/A	59	56.8	83.6	43.4	48.5	No activities on site, background levels as predicted
1/08/2022	1:31 PM	Westmead	26-30 Bailey Street, Westmead	DSI work PH87, Dewatering, Vac truck activities (removing DSI wastewater from plastic containers)	78	59	58.5	72.8	49.1	51.9	Monitor Calibration 94.4 dBA. Some activities out of GLC's scope happening on Hawkesbury Road opposite train station. (see photo attached) Mitigation measures in place (noise fences around auger and pump), works were being completed under LIW05.
1/08/2022	4:58 PM	Westmead	19 Hassall Street, Westmead	No activities on site	N/A	59	63.6	94.7	50.6	54.7	Monitor Calibration 94.4dB Traffic in the area is main noise contributor, the rate background levels higher than the value set for NCA02. More noise monitoring needs to be conducted when there are not activities happening on site.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
1/08/2022	11:13 AM	Parramatta	Rear 240 Church Street, Parramatta	Waste concrete load-out at stockpile area using 14T excavator, site establishment including fencing installation and telehandler operation.	57	70	65.1	84.7	58.4	60.2	Monitoring undertaken at closest receiver = commercial premises = 70dBA = 20m from works. Activities compared to PM.01 Site Establishment scenario Mitigation measures in place including respite periods and attended monitoring.
1/08/2022	11:40 AM	Parramatta	Rear 240 Church Street, Parramatta	Concrete breaking in stockpile areas using 14T excavator; site establishment including fencing installation and telehandler operating.	62	70	67.5	82.2	59.8	61.6	Monitoring undertaken at closest receiver = commercial premises = 70dBA = 20m from works. Activities compared to PM.01 Site Establishment scenario + 5dBA for high noise impact works = 57dBA + 5dBA = 62dBA. Mitigation measures in place including respite periods and attended monitoring.
1/08/2022	10:32 PM	Clyde Dive	ATC Stables	Vacuum Truck - service location	60	60	58.4	70	53.3	55.8	Works noise level below modelled sound level. Traffic on James Ruse Drive presented spikes in LA readings. Result: compliant with modelling.
2/08/2022	11:30 AM	MSD	ATC Stables_MSF	Saw Cutting on Unwin Street	82	60	79.7	87.2	72.5	74	noise blankets installed on moving cage. reading taken at midway point and compliant with noise predictions. mitigation measures applied as per noise model
2/08/2022	9:24 PM	Clyde Dive	ATC Stables	Vacuum Truck NDD - locating services	60	60	59	78.7	52.3	55.3	Works noise level below modelled sound level. Traffic on James Ruse Drive presented spikes in LA readings. Result: compliant with modelling.
2/08/2022	11:15 PM	Clyde Dive	ATC Stables	NDD Vacuum Truck - locating services	61	60	59.4	85.5	49.4	54.5	LAeq(15) below modelled impact. Traffic on James Ruse Drive equal source of noise. LAmax (85.5dB) result of monitor being knocked during monitoring. Result: works compliant with modelling
2/08/2022	8:25 AM	Parramatta	Rear 240 Church Street, Parramatta	Site establishment activities including telehandler operation, site labouring and localised excavation for heritage/contamination investigations.	57	70	63.1	82.6	55.3	57.4	Monitoring undertaken at closest receiver = commercial premises = 70dBA = 8m from works. Activities compared to PM.01 Site Establishment scenario. Activities being undertaken in the background at Delta and 85 Macquarie Street sites are audible over works being undertaken on the GLC site.
3/08/2022	9:56 AM	Westmead	19 Hassall Street, Westmead	Non- Destructive Digging; Potholing DSI works; Road Sweeping	77	59	62.9	75.9	53.3	58.7	Monitor calibration 94.2 dB - NM0024 GLC's works compliant and faintly heard over RBL traffic noise. Works were being completed under LIW and background levels were elevated (biggest contributor see minute table). Background traffic levels louder than RBL for NCA02
3/08/2022	4:30 PM	Westmead	26-30 Bailey Street, Westmead	Excavation works new office pad SE corner; DSI works - potholing T86	77	59	60.3	75.9	47.8	52.3	Monitor calibration 94.2 dB; NM 0025 GLC works compliant and faintly heard over RBL traffic noise. Mitigation measures in place (noise fences around auger), works were being completed under LIW05 and background levels were elevated (see minute table). Background traffic levels louder than RBL for NCA02
3/08/2022	12:13 AM	Clyde Dive	ATC Stables	NDD Vacuum Truck - service location	61	60	56.1	76.2	43.2	47.2	Vac truck turned off after minute 7 of recording. LA during works was between 56dB and 59dB. Result: Works compliant with modelling

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
4/08/2022	8:16 AM	Westmead	19 Hassall Street, Westmead	Non Destructive Digging works; Potholing DSI works	77	59	64.6	78.6	54.7	58.7	Noise Calibration 94 dB; Noise Monitoring 0026 During measurement noise from traffic was predominant, site activities barely can be heard and background noise level were higher than the RBL establish for NCA02. Activities developed under LIW approvals.
5/08/2022	7:42 AM	Westmead	26-30 Bailey Street, Westmead	NDD activities, DSI works P86	77	59	60.9	73.9	51.4	57.7	Monitor calibration 94.2 dB - NM0027 GLC's works compliant and faintly heard over RBL traffic noise. Works were being completed under LIW and background levels were elevated (biggest contributor see minute table). Background traffic levels louder than RBL for NCA02
8/08/2022	9:59 AM	Westmead	10 Hassall Street, Westmead	NDD Hoarding works, DSI works	78	59	61.4	76.4	57.1	58.7	Monitor calibration 94.2 dB - NM0028 GLC's works compliant and faintly heard over RBL traffic noise. Works were being completed under LIW and background levels were elevated (biggest contributor see minute table). Background traffic levels louder than RBL for NCA02
10/08/2022	3:07 PM	Westmead	10 Hassall Street, Westmead	NDD activities - Hoarding walls; Haulage road and SE pad compaction	78	59	63	76.8	52.7	55.7	Monitor Calibration 92.2 dB - NM0029 GLC's works compliant and faintly heard over RBL traffic noise. Works were being completed under LIW and background levels were elevated (biggest contributor see minute table). Background traffic levels louder than RBL for NCA02
11/08/2022	9:56 AM	Westmead	34 Bailey Street, Westmead	Concrete cutting; Vac truck (Hoarding works)	89	59	64.9	75.3	54.6	58	NM0030 Calibration Monitor 94.4 dB Saw activities undertaken under LIW05 - Hoarding works Environmental Mitigation in place
12/08/2022	10:52 AM	Westmead	26-30 Bailey Street, Westmead	Electric works on Bailey St	77	59	65	73.3	56.8	63.3	NM 0031 Monitor Calibration 94.4 dB The electrical activities are the biggest contributor. Traffic was low during monitoring
15/08/2022	7:25 AM	Clyde Dive	ATC Rosehill Gardens Entry Gate B	Piling Stage 01	75	70	67	93	62.6	66.4	Raw output: 70.0 dB. Distance to source: 20m. Distance of source to receiver 30m Monitoring within 3m of hard surfaces due to exclusion zone location therefore a 3dB reduction 70dB - 3dB = 67dB. Result: Compliant. monitoring within modelled output and within the 70 dB external NML for commercial receivers
22/08/2022	12:06 PM	Clyde Dive	ATC Rosehill Gardens Entry Gate B	Western platform demolition	75	70	64.6	95.3	61.5	64.9	Raw output: 71.6 dB. Monitoring distance to source: 15m. Source distance to receiver 15 m from works. High winds noticeable on instrument. Deductions: 1/2 distance to Receiver: -6dB High winds noticeable on instrument: -1dB 71.6dB - 6dB-1dB = 64.6dB Result: Compliant with Modelling and NML
23/08/2022	11:49 AM	Clyde Dive	Clyde Dive - NCA 04	Western platform demolition	71	61	63.7	86.1	57.7	63.3	Raw output: 69.7 dB Monitoring distance to source: 30 m Distance of source to receiver: 60m Deductions: 1/2 distance of monitor to source from receiver: -6dB Output: 69.7dB - 6 db = 63.7Db Main source of noise was traffic on JRD. Often exceeding 74dB. Result: Compliant with DNVIS CD0.1b
24/08/2022	7:12 PM	Westmead	Bailey Street and Hawkesbury Road Intersection, Westmead	Fencing Activities (out of GLC's scope)	N/A	52	65.5	81.9	58	61.8	Fencing reparation works next to the Primary school on Hawkesbury Road undertaken by Environmental Choice Industries and Traffic Specialist TS. These activities are out of GLC's scope. Noise monitoring undertaken for data collection and subsequent assessment of the noise levels in the area. No GLC's works ongoing Noise Monitoring 0033 Calibration Monitor 94.2 dB

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
26/08/2022	8:13 AM	Parramatta	211 Church Street, Parramatta	Concrete barrier installation for walkway within site	60	70	60.3	76.1	54.7	57.4	Compliant. Loudest noise spikes were from non GLC related construction occurring at the adjacent commercial works on Macquarie st. Monitored activities were audible momentarily. Squawker from frontloader carrying out concrete barriers were the most audible ranging between 58-61db. Other activities on site were in conjunction with monitored activities incl, 5T excavator moving concrete material front mini truck. Occasional pedestrians attempted to disrupt noise monitoring.
26/08/2022	3:01 PM	Parramatta	211 Church Street, Parramatta	Concrete breaking, cleaning up with excavator	61	70	67.4	88.2	55.8	60.5	Noise blankets setup against site boundary. Monitoring from <30m away. Peak hour for pedestrians up and down Church Street. Operator of excavator is aware of respite periods and adheres to them. Monitoring period highly disrupted from external construction activities behind and around noise meter. Laeq appears higher than PNL however much from unrelated non GLC works. Compliant when not disrupted by unrelated high impact works
1/09/2022	10:01 PM	Parramatta	1 Macquarie Street, Parramatta	Survey works along O Connell x George St, TC and VFT	70	70	63	80.5	58.3	60.1	Construction not audible, multiple pauses in session due to drink crowd wanting to have a chat, VFT surveying continues along george st oconnell intersection compliant, RBL louder than usual due to traffix and loud crowds
1/09/2022	10:44 PM	Parramatta	1 Macquarie Street, Parramatta	Surveying across o connell and george st, TC, VFT and ward present	70	70	61.2	82.8	42.3	45.3	Fairly quieter than previous session due to influx in traffic. Low to Medium traffic. Survey works were inaudible throughout the entirety of the session. Noise dominator was from traffic on macquarie st
5/09/2022	9:32 AM	Parramatta	211 Church Street, Parramatta	Vac truck in operation, concrete breaking, archeological works, site office service works	65	70	64.3	81.9	58.1	61.1	Noise levels were compliant. Noise levels were dominated by macquarie st commercial construction works, pedestrians along church st, PLR works. Monitored approximately 80m from vac truck. Vac truck operated momentarily and did not exceed 66db. Monitoring the vac truck's noise levels were interrupted by other non-GLC related works
6/09/2022	8:25 PM	Clyde Dive	Rose Hill Gardens Racecourse Stables - Eastern site boundary	Barrier Installation	61	60	57.4	81.1	29.3	52.5	Monitoring distance to source: 53m. Source distance to receiver: 67m. Equipment Used: 5T excavator, tipper truck, franna, hand tools. Traffic on James Russ Drive main source of noise. Works only audible during breaks in traffic (approx. 55dB). Result: Compliant. Works in line with modelling and required mitigations measures per OOHW permit.
6/09/2022	8:37 PM	Parramatta	135 George Street, Parramatta	Topographical Survey - Utilities Location	70	70	65.7	89.5	48.3	50.9	Monitoring distance to source: 2m. Distance of source to receiver: 3m. Traffic along George St main source of noise. Works only audible for small durations. LAeq(15min) < 70dB which is inline with commercial NML limits. Result: compliant.
6/09/2022	9:18 PM	Parramatta	5/111 George Street, Parramatta	Topographical Survey - Utilities Location	58	58	56.8	79.2	52.2	54.2	Monitoring distance to source: 90m. Distance of source to receiver: 95m. Works not audible at receiver. Traffic along George St main source of noise. Result: compliant with modelling and implemented mitigation strategies as per OOHW permit.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
6/09/2022	9:49 AM	Westmead	24 Bailey Street, Westmead	Hoarding walls activities	65	59	63.9	74.9	53.6	59.1	Noise Monitoring 0042 Monitor Calibration 94.2 dB High noise levels due to drilling concrete blocks, suggestion of drilling concrete blocks behind old hoarding walls was made, but it this measure is not feasible due to drilling holes in the concrete blocks varies depending ground level where they will sit on.
7/09/2022	10:23 AM	Westmead	24 Bailey Street, Westmead	Hoarding walls activities	65	59	62.1	88.3	47.2	51.5	Noise Monitoring 0043 Monitor Calibration 94.2 dB Bailey St hoarding walls installation, noise levels are exceeding NML02, noise blankets in place and 1 hour respite applied after 3 hrs of work. High noise activities (drilling concrete blocks) are undertaken for few mins only.
8/09/2022	11:44 AM	Westmead	26-30 Bailey Street, Westmead	Hoarding walls - Bailey St	69	59	66	91.8	46.4	49.5	Noise Monitoring 0044 Monitor Calibration 94.2 dB Bailey St hoarding walls installation, noise levels are exceeding NML, noise blankets in place and 1 hour respite applied after 3 hrs of work. High noise activities (drilling concrete blocks and hammering) are not continuous activities (less than 10 mins)
10/09/2022	12:17 PM	Westmead	24 Bailey Street, Westmead	Earthworks A1	69	59	60.9	90.6	47.4	51.9	Noise Monitoring 0045 Monitor Calibration 94.2 dB Excavation A1, Noise levels from excavation between 53 -54 dB (as per above). High noise from traffic on Hawkesbury Road and Bailey Street.
12/09/2022	10:19 AM	Parramatta	211 Church Street, Parramatta	Hoarding installation along United lane, telehandler	60	70	62.3	83.5	55.6	57.8	Hoarding installation work zone was not visible to monitoring location. Works were inaudible throughout the entirety of the noise monitoring session due to unrelated GLC construction works occurring in the near proximity. Compliant. Dominant noise factor was Macquarie Street commercial construction and pedestrians along Church St.
21/09/2022	1:51 PM	Westmead	13-17 Bailey Street, Westmead	Construction activities included site establishment with office pad earthworks using 20T excavator and Positrak and installation of hoarding on site perimeter	58	59	59	78	45.7	49.6	Monitoring being conducted in response to community complaint received by adjacent receiver. Construction activities were intermittedly audible over background noise sources including traffic and trains.
22/09/2022	4:30 PM	Westmead	26-30 Bailey Street, Westmead	Earthworks A1	72	59	59.5	78	44.5	53.2	Noise Monitor Calibration 93.6 dB; Noise monitoring attended due to community complaint. During monitoring the noise levels from the 12 T excavator were between 54 dB to 57 dB; there were moments where the excavator generated noises up to 67.3 dB, however these noises occurred for less than a sec and it happened in 5 times during the monitoring. Distances: Source to Monitor location 39.03 m; Monitor to receivers 15 m; total Source to receiver 54.03 m. considering distance from source to receiver the noise level at the receiver's residence would be 56.7 dB (2.3 dB) under 59 dB (NML NCA02 day time)
26/09/2022	1:15 PM	Clyde Dive	Rose Hill Gardens Racecourse Stables - Eastern site boundary	Vegetation clearing	69	60	68	79.3	57	60	Monitoring distance to source: 20m. Distance of source to receiver: 27m. Chainsaw used intermittently (70-76dB in use). Traffic equal source of noise (70dB). 3 and 1 respite provided. Result: compliant with NML and modelling.
27/09/2022	11:00 AM	Clyde Dive	ATC Stables (at stables)	vegetation clearance using a chainsaw and 20T excavator. 15min period includes felling of tree, cutting of segments and moving segments to the chipper (not operating)	74	60	63.8	79.7	54	57.1	GLC Works compliant with noise modelling and below requirement for DNVIS

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
27/09/2022	8:20 AM	Clyde Dive	26-30 Bailey Street, Westmead	Earthworks - 12 T Roller; Vac truck; 12 T excavator	72	59	61.8	76.8	55.7	58.3	Noise Monitoring attended to verify noise levels from earthworks activities. 12 T Drum roller, 20 T excavator in operation; mitigation measures in place with community notifications. Noise from traffic were significantly high. Distance Source - Monitor location: 42 m Distance Monitor Location - Receivers: 13 m
29/09/2022	10:38 PM	Westmead	7 Park Parade, Westmead	NDD - Potholing (DIS - HV works)	65	42	58.6	74.8	44.4	48.5	NM 0051; Monitor Calibration 94.3 dB; NDD activities on PH11; PH012. Digging activities take between 4 to 5 mins for each pothole
29/09/2022	11:12 PM	Westmead	29-30 Parkside Lane , Westmead	DSI - HV Utility works (Section 4)	53	42	50.6	67.4	39	41.8	NM 0052; Monitor Calibration 94.3 dB; Dry suction excavation hardly heard. LAeq are 3 dB above the NML, considering the distance between monitor location and receiver, some noise deduction can be made an the noise levels at the receivers would be lower
30/09/2022	12:53 AM	Westmead	29-30 Parkside Lane, Westmead	DSI - HV Utility works (Section 4)	53	42	39.8	56.9	34.4	36.4	NM 0054; Monitor Calibration 94.3 dB; Dry suction excavation hardly heard
5/10/2022	10:00 PM	Parramatta	36 Smith Street, Parramatta	Storm Water Drainage Investigations	70	70	67	82.5	53.9	56.6	Distance of source to monitor: 50m. Distance of source to receiver:70m. Works not audible during monitoring. Main source of noise: traffic on Smith street. Commercial receiver: Collector hotel. NML: external 70dB. Result: compliant with modelling and mitigation measures implemented.
6/10/2022	10:42 AM	Clyde Dive	NCA 07 - Gate B Rosehill gardens	Shaft Excavation	74	70	64.8	84.9	64.4	66.5	Raw Output: 70.8dB. Monitoring distance to source: 10m. Distance of source to receiver: 30m. Deductions: monitoring occured 1/3 distance of source to receiver (-6dB) 70.8dB - 6dB = 64.8dB. Main source of noise: shaft excavation and generator. Works in line with DNVIS modelling. Mitigation measures in place: 3and1 respite, community notification. Noise level below NML for commercial receiver external (70dB). Result: Compliant
8/10/2022	10:24 AM	Westmead	7 Park Parade, Westmead	DSI - HV Utility works (Section 2)	76	59	65.7	82.7	48.1	54	Noise Monitoring attended to verify noise levels from DSI in Section 2; Noise levels were elevated due to continuous traffic. The dry suction for each pothole is around 5 mins. Community letter box drops and individual briefings was offered to receivers as a mitigation measure.
8/10/2022	11:10 AM	Westmead	1 Bailey Street, Westmead	DSI - HV Utility works (Section 2)	84	59	56	83.5	48.1	60.6	Noise levels from Dry suction excavation 2 dB aprox. lower than the predicted levels for these activities. During monitoring, traffic was constant and the excavation activities were undertaken for 7 mins approximately. Community letter box drops and individual briefings was offered to receivers as a mitigation measure.
8/10/2022	11:40 AM	Westmead	1 Bailey Street, Westmead	DSI - HV Utility works (Section 1)	84	59	73.4	93.3	53.6	57.6	Noise levels from Dry suction excavation were elevated due to the distance were the monitoring was undertaken. the duration for TP003 was for 5 mins approximately Distance Source to Monitor location: 10.88 m Distance Monitor Location to Receiver: 4. 68 m Community letter box drops and individual briefings was offered to receivers as a mitigation measure.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
8/10/2022	12:05 PM	Westmead	8-12 Alexandra Avenue, Westmead	DSI - HV Utility works (Section 1)	83	59	74.9	92.6	60.3	62.4	Noise levels from Dry suction excavation were elevated due to the distance were the monitoring was undertaken. the duration for TP002 was for 5 mins approximately. Where it is not possible to measure more than 3 m from any reflective structure or wall, a reduction of up to 2.5 dB can be applied to the measured noise level to account for the likely increase in noise associated with reflective surfaces. Saying that LAeq will be 72.5 dB Distance Source to Monitor location: 10.09 m Distance Monitor Location to Receiver: 2 m Community letter box drops and individual briefings was offered to receivers as a mitigation measure.
11/10/2022	11:46 AM	Westmead	2-12 Hassall Street, Westmead	Dewatering activitites (Vac Truck)	71	59	63.4	79.4	48.9	53.3	Noise monitor calibration 93.7 dB. Noise levels from vac truck suction are 7 dB above the NML (59 dB daytime). Activities were undertaken during the approved hours, during monitoring suction activities took approximately 6 mins, and noise levels from the traffic on Alexandra Ave predominate.
12/10/2022	2:10 PM	Westmead	26-30 Bailey Street, Westmead	Stormwater removal + Earthworks; Vac Truck suction and Excavator operation	73	59	58.8	83.6	48.7	52	
13/10/2022	4:30 PM	Westmead	26-30 Bailey Street, Westmead	Earthworks A2	72	59	59.5	78	49.5	53.2	Noise Monitoring undertaken to verify noise levels from earthworks in A2. Noise from these activities are under NML - NCA02. Traffic biggest contributor of high noises.
14/10/2022	3:25 PM	Westmead	26-30 Bailey Street, Westmead	Pouring concrete activities Pad 1 - A1 Offices Facilities	72	59	61.4	82.7	48.1	54	Noise Monitoring attended to verify noise levels from pouring concrete activities at Pad1-A1. Concrete pouring activities are continuous, with noise levels between 58-61 dB. The highest noises during the monitoring are from the traffic on Bailey St. As a mitigation measure, the team has been advised to take one hour respite every three hours of continuous work.
18/10/2022	11:49 AM	Parramatta	211 Church Street, Parramatta	A class Hoarding installation with concrete breaking	60	70	66.6	83.9	52.9	55.8	Hand drilling during hoarding installation was the loudest. No drilling was completed for more than 5seconds. Drilling ranged between 66-74db. Occasionally, concrete breaking was heard however did not last throughout the duration of the monitoring session
19/10/2022	9:16 AM	Parramatta	Macquarie Street X Hough Lane, Parramatta 169 Macquarie Street, Parramatta	Truck and Dog material deliveries into new compound	50	70	64.6	72.3	58.6	59.6	Truck material unloading onto site - audible, tailgate shutting also audible however did not exceed RBL by much. Compression braking heard
21/10/2022	5:38 PM	Westmead	26-30 Bailey Street, Westmead	Wheel Washing; Earthworks; Street-sweeper	71	59	69.8	82.4	49.1	57.9	Noise Monitor Calibration 93.7 dB; noise monitoring attended to verify new wheel washing location. Alexandra Ave gate has been closed temporary while UST removal. Noise levels from activities undertaken onsite comply with NML defined to NCA02. Noise levels from street sweeper activities are between 8- 14 dB above NML - NCA02. frequency to be assessed to avoid receivers disturbance. Recommendation: Crew has been advised to keep the gate closed during and until wheel washing activities end.
22/10/2022	9:17 AM	Parramatta	12 Pitt Street, Parramatta	Concrete cutting activities to support the slit trenching for HV Works	72	68	63.3	84.1	45.8	53.5	Verification monitoring for concrete cutting works in Section 5 of WM to PM HV Utility Works. Concrete saw can be faintly heard over traffic and trains passing the monitoring location.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
											As works are considered high noise impact works, noise mats were installed around the work area prior to works commencing. Traffic and trains passing the monitoring location are the dominant source of noise during the monitoring event.
25/10/2022	8:30 PM	Parramatta	28 George Street, Parramatta	HV utilities - Trenching to identify location services along George St	81	55	75.4	81.5	65.1	66.6	Vac truck suction noise levels under the predicted levels. There was not need to use the saw wet demo to cut the concrete, instead manual hammer drill TE60 was used to remove bricks and tiles; These activities were developed during a few second to remove the first two bricks per trench.
25/10/2022	9:23 PM	Parramatta	262 Church Street, Parramatta	HV utilities - Trenching to identify services location along George St	82	70	78.8	96.5	59.3	68	NM 0019; Noise levels from trenching activities lower than the predicted levels. Noise blankets are in place as a mitigation measure. During the 15 min monitoring, the suction excavation activities took 9 mins.
25/10/2022	10:55 PM	Parramatta	211 Church Street, Parramatta	HV utilities - Trenching to identify services location along George St	63	70	51.8	66.3	46.1	48.1	The noise levels at the location were 3 dB above of the RBL-NCA03, noise from pedestrians interaction were noticeable during the monitoring as per minute table
26/10/2022	12:16 AM	Parramatta	338 Church Street, Parramatta	HV utilities - Trenching to identify services location along George St	54	48	57.1	73.6	48.9	51.8	Results related to the ambient noise of the area , HV utility activities are inaudible (trenching on George St - Wet vac truck)
26/10/2022	12:12 PM	Westmead	6 Alexandra Avenue, Westmead	Non Destructive Digging (NDD) for BH90 on Alexandra Avenue as part of off-alignment DSI scope of works.	87	59	79.6	88.6	56.6	73	Monitoring completed to verify Stage W-001 - NDD of the DSI works for BH90. Verification monitoring confirmed works were high noise impact works and modelling correct. Noise mats in place as high noise impact works. Traffic and train noise intermittently heard over the NDD activities.
29/10/2022	10:41 AM	Westmead	4 Alexandra Ave - Westmead	DSI - Off Alignment BH90	75	59	61.9	85.4	40.8	47.5	Noise monitoring attended to verify noise levels from the drilling activities on BH90 on Alexandra Ave. The drilling activities were intermittent during the monitoring as per minute notes. Observations: - Install noise blankets - More noise monitoring required
4/11/2022	10:04 AM	Clyde Dive	NCA 04 - 120 James Ruse Drive	Shaft excavation- vibrating ripper	80	61	79	96.4	56.4	65.7	Distance of monitor to source: 65m distance of source to receiver: 70m. Traffic on JRD main source of noise. Vibration ripper only audible for brief segment during break in traffic (approx 68-72 dB). Result: works compliant with standard work hours NML.
5/11/2022	11:49 AM	Westmead	1 Bailey Street, Westmead	Drilling for BH91 on Alexandra Avenue under the off-alignment DSI works scope	85	59	65.5	79.9	60.7	61.9	Monitoring being completed following complaint being received for DSI works at BH91. Complaint received at 9:55amm for operation of the vacuum truck, however, vacuum truck no longer being operated on shift so cannot be verified. Noise mats in place around drilling works as required by consistency assessment. Traffic and train noise heard over drill rig operations.
5/11/2022	12:12 PM	Westmead	1 Bailey Street, Westmead	Stage 2 (W-002_ drilling works at BH91 for off-alignment DSI works.	85	59	70.9	84.7	67.7	69.6	Monitoring being completed following complaint at 9:55am for DSI works being completed at BH91. Monitoring completed on Stage 2 (W-002) for drilling on the off-alignment DSI scope of works. Noise mats in place as required by the C/A for the works. Traffic and train noise audible over the drilling operations. Note that NDD/vacuum truck works had been cancelled for the remainder of the day.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
7/11/2022	4:45 AM	Parramatta	Macquarie Lane Carpark, Parramatta	Nil - background monitoring prior to OOHW commencing	N/A	48	56.8	77.9	52.7	54.1	Background monitoring being completed prior to OOHW commencing on-site. Ambient noise levels included traffic and low hum of refrigerators adjacent to the monitoring location. Closest residential receiver is at 332 Church Street, Parramatta approx. 330m from works location.
7/11/2022	5:02 AM	Parramatta	Macquarie Lane Carpark, Parramatta	Set-up / installation of temporary fencing in Macquarie Lane Carpark	73	70	62.7	84.5	53.2	54.6	Monitoring being undertaken to confirm compliance with requirements of L5.3 - Low Noise Impact works. Monitoring completed adjacent to works with noise levels being verified as below those predicted for the closest receiver @ Roxy Theatre (i.e. 73dBA). When attenuated over distance to the nearest sensitive receiver at 338 Church Street @330m away, activities would be inaudible.
10/11/2022	2:31 PM	Parramatta	76-78 Macquarie Street, Parramatta	Dsi works drill rig behind the Roxy Theatre	70	70	62.8	75.4	58.4		Drill works were noise monitored however were barely audible throughout the duration. Dominant noise source was from traffic along Smith Street and commercial building construction works that echoed and bounced in the open area. Works were compliant and under the PNL. For MW26 - Macquarie Lane
10/11/2022	12:27 AM	Westmead	29-30 Parkside Lane, Westmead	To support the installation of underground cabling - Trenching Works - Section 3	45	42	43.4	63.4	37.2		Monitoring was completed during the excavation of trenching works requiring 1 excavator to complete the works. No saw cutting was involved during the night works. Buses, trains and large vehicles were audible during monitoring.
14/11/2022	7:27 PM	Parramatta	Roxy Theatre, 69 George Street, Parramatta	Line marking on Horwood place	70	70	57.6	79.1	53.1	54.2	Works were hardly audible. Individuals talking and cars passing were the loudest. Works were compliant and ranged between 52-54dB. Ambient background noise levels dominated throughout the monitoring session.
16/11/2022	9:15 AM	Parramatta	12 Oak Street, Parramatta	DSI - Stage 1 - Site Prep & Saw Cutting	85	61	62.8	90.9	45.1	47.9	Verification monitoring for BH32 & BH33 - Stage 1 Site Prep works; Works audible at closest receivers; Background noise including traffic audible over construction works at times.
16/11/2022	9:40 AM	Parramatta	12 Oak Street, Parramatta	DSI - Stage 1 - Site Prep & Saw Cutting	85	61	72.5	86.3	44.8	48.3	Verification monitoring for BH32 & BH33 - Stage 1 Site Prep works including saw cutting; Works audible at closest receivers; Noise mats in place as required by C/A; Background noise including traffic audible over construction works at times.
17/11/2022	12:17 AM	Parramatta	Oak Street, Parramatta	TC parked	46	46	35	59	31	33	T/C was turned off the whole.time Compliant
17/11/2022	10:17 AM	Parramatta	14 Oak Street, Parramatta	DSI - Stage 2 - Drilling at BH32 & BH33	65	61	64.3	76	62.2	63.6	Verification monitoring for BH32 & BH33 - Stage 2 drilling works; Works audible at closest receivers; Noise mats in place as requiored by C/A; Background noise including traffic audible over construction works at times.
17/11/2022	10:42 AM	Parramatta	13 Oak Street, Parramatta	DSI - Stage 2 - Drilling at BH32 & BH34	75	61	72.1	77.1	66.1	71.7	Verification monitoring for BH32 & BH33 - Stage 2 drilling works; Works audible at closest receivers; Due to layout of work area with active traffic lanes noise mats were unable to be installed between receiver and work activities; Background noise including traffic audible over construction works at times.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
17/11/2022	4:25 PM	Parramatta	14 Oak Street, Parramatta	DSI - Stage 2 - Drilling at BH32 & BH34	65	61	60.9	78	58	59	Full attenuation around works
17/11/2022	11:27 PM	Westmead	29-30 Parkside Lane, Westmead	Trenching section 4	45	42	39	51	36	37	No construction was audible, Ambient residential noises 37-40db. Dominant noise source from cars passing by or someone shouting
17/11/2022	9:10 PM	Westmead	29-30 Parkside Lane, Westmead	Section 4 trenching	45	52	46.3	64	37	39.2	No construction was audible at all. Residents were the dominating noise source
17/11/2022	11:01 PM	Westmead	2-6 Priddle Street, Westmead	Section 4 trenching	40	42	42	57	33	35	Construction inaudible, Individual about 20m away was talking loudly most of the time fairly quiet. Compliant
21/11/2022	9:23 PM	Westmead	1 Bailey Street, Westmead (Park side)	HV - Trenching Section 2	75	52	63.1	82.1	52.9	56.1	HV S2 Trenching & Conduits. Activities completed under OOHW WEST002 Noise levels without traffic (61 - 63 dB approx) Train and road traffic major contributor. Equipment used: - 1 excavator 6T - 1 Light tower
21/11/2022	11:35 PM	Westmead	7 Park Parade, Westmead	HV - Trenching S2	69	42	68.2	90.7	52.6	65.4	HV S2 - Trenching & Conduits Trenching activities major noise contributor during monitoring Equipment used: - 1 excavator 6T - 1 Light tower
22/11/2022	9:49 AM	Parramatta	13 Oak Street, Parramatta	DSI - Stage 2 -Drilling at BH32 & BH33	75	61	65.6	77.5	58.1	60.7	Verification monitoring for BH32 & BH33 - Stage 2 drilling; Works audible at closest receivers; Due to layout of work area with active traffic lanes noise mats were unable to be installed between receiver and work activities; Background noise including traffic audible over construction works at times.
22/11/2022	10:34 PM	Westmead	7 Park Parade, Westmead	HV - Trenching & Conduits S2	69	42	60.7	73.4	56.9	57.8	HV S2 Trenching & Conduits. Equipment used - 2 excavator 6T/each - 1 wet back truck covered - 3 trucks with engine off Noise level from Trenching activities were between 57 to 59 dB (no traffic) The distance from source to receivers 45 m approx. Works under OOH permit West002
23/11/2022	1:10 AM	Westmead	2-6 Priddle Street, Westmead	HV S2 - Trenching & Conduit	47	42	43.9	59.1	36.7	39.1	HV S2 - Trenching & Conduit Equipment used - 2 excavator 6T/each - 1 Truck - 1 Light tower OOHW WEST-002
23/11/2022	11:04 PM	Westmead	1 Bailey Street, Westmead (Park side)	HV S2 - Trenching & Conduits	75	42	66.4	85.5	61.9	63	HV S2 - Trenching & Conduits inst Works under OOHW -WEST002 Equipment Used: - 1 Wet Vac truck - 1 Excavator 6T - 1 Solar Light tower
28/11/2022	8:33 PM	Westmead	29 Parkview Lane, Westmead	Section 4 - trenching works	45	52	44.8	71.9	40.4	42.1	Works barely audible during monitoring. Trains on railway loudest source of sound. Result: compliant

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
29/11/2022	9:36 PM	Westmead	29-30 Parkside Lane, Westmead	Section 4 - trenching	45	52	48.3	73.5	40.7	42.3	Works only audible for short sections of monitoring and recorded below NML. Wind gusts main source of noise. Compliant with noise modelling and mitigation measures implemented
30/11/2022	9:24 PM	Parramatta	80-100 George Street, Parramatta	DSI MW24 - Stage 2 (Drilling W.002)	53	70	65.3	85.4	60.9	62	Distance of monitor to source: 20m - this is a hotel/restaurant complex. Monitoring occurred half way between source and receiver as non project parking lot demolition occurred adjacent to school. Main source of noise was shared between car park demolition (64-67dB) and drilling works (61-63dB). Drill Rig hammering occurred for one minute of works presenting a 85dB spike in monitoring. Compliant with modelling and mitigation measures implemented. Monitoring for MW24 - Barrack Lane works
1/12/2022	9:25 PM	Westmead	26-30 Bailey Street, Westmead	MW47 (DSI stage 1)	61	52	58.1	92.8	40.1	44.6	Works only audible in breaks in traffic with readings of 43-46dB. Main source of noise local traffic 60-75dB. Result: compliant with modelling and mitigation measures implemented.
1/12/2022	10:02 PM	Westmead	156 Hawkesbury Road, Westmead	MW47 (DSI Vac truck)	67	42	64.8	81.7	46.7	53.7	Monitoring distance to source 40m. Distance of source to receiver 50m. Main source of noise: equal local traffic and vacuum truck. Noise blankets installed around truck.
2/12/2022	9:42 PM	Westmead	156 Hawkesbury Road, Westmead	DSI - MW 47 stage 02 (Drilling)	76	52	65	83.9	51.8	56	Monitoring distance to source: 40m. Distance of source to receiver 50m. Day maker main source of noise from works. Main source of noise during monitoring: local traffic 62-75dB as cars pass through intersection. Works only audible during breaks Iâ€™m traffic. Result: compliant with modelling and mitigation measures implemented
2/12/2022	10:02 PM	Westmead	156 Hawkesbury Road, Westmead	DSI MW47 Stage 02 (Drilling)	76	42	63.8	78.5	52	55.5	Monitoring distance to source 40m. Distance of source to receiver 50m. Works only audible during infrequent breaks in traffic: sounds level (52-56dB) main source of noise: local traffic(60-75dB) result: Compliant with modelling and mitigation measures implemented
6/12/2022	9:05 PM	Parramatta	81 Hassall Street, Parramatta	Site Establishment - Non Destructive Drilling, Vac Truck	89	53	77.3	82	62.4		For BH34 - Hassall Street
7/12/2022	11:26 AM	Clyde Dive	ATC Stables - Eastern site boundary	Bulk earthworks	74	60	71.6	93	61.3	63.5	Distance of monitor to source: 7m. Distance of source to receiver: 15m. Works main source of noise during monitoring 66-70dB. Noise level peaked during reversing of excavator (75-80dB). ATC stables - barn one was closest receiver and did not have roller door closed. Result: compliant with modelling and mitigation measures implemented.
7/12/2022	12:14 AM	Parramatta	80 Hassall Street, Parramatta	Site Establishment - Non-Destructive Digging, vac truck	78	46	65.4	81.1	46.5		For BH34 - Hassall Street
7/12/2022	8:22 PM	Parramatta	81 Hassall Street, Parramatta	Stage 2 - Drilling of monitoring well with auger drill	83	53	60.7				Noise mats installed. Monitoring location 2m away from noise mats, (nearest sensitive receiver from noise modelling). Monitoring was conducted right next to the main road (Hassall Street). For BH34 - Hassall Street

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA L_{Aeq}	L_{max}	L_{min}	L_{90}	Notes
											There was an even flow of traffic throughout the 15 mins. Works were audible from monitoring location. Work site was approx. 5m away from residential receiver. Majority of the noise level increases were generally from vehicles, buses and trucks.
7/12/2022	8:40 PM	Parramatta	80 Hassall Street, Parramatta	Stage 2 - Drilling of monitoring wells with auger drill	72	70	66.9	98.1	52		Noise mats installed. Monitoring location across the road from the work area. Monitoring was conducted right next to the main road (Hassall Street). For BH34 - Hassall Street There was an even flow of traffic throughout the 15 mins. Works were audible from monitoring location. Majority of the noise level increases were generally from vehicles, buses and trucks.
7/12/2022	9:00 PM	Parramatta	121 Alfred Street, Parramatta	Stage 2 - Drilling of monitoring well with auger drill	56	53	51.5	69.2	36.8		Monitoring location situated at 121 Alfred Street. Medium flow of traffic. Building blocked the sight from of the work area from the monitoring location. For BH34 - Hassall Street Situated near traffic lights. Works were barely audible from this location.
7/12/2022	10:10 PM	Parramatta	81 Hassall Street, Parramatta	Stage 2 - Drilling of monitoring well with auger drill	83	46	66.8				Noise mats installed. Monitoring location 2m away from noise mats, (nearest sensitive receiver from noise modelling). Monitoring was conducted right next to the main road (Hassall Street). There was an even flow of traffic throughout the 15 mins. Works were audible from monitoring location. Work site was approx. 5m away from residential receiver. Majority of the noise level increases were generally from vehicles, buses and trucks. For BH34 - Hassall Street
8/12/2022	1:50 PM	Sydney Olympic Park	Abbatoir Blues Cafe Building C/1 Herb Elliott Ave, Sydney Olympic Park NSW 2127	Bore Hole Drilling Operations - Hydraulic Drilling Rig	114	58	57.5	72	53.9	72	Noise mats installed. Works were audible from monitoring location. Monitoring location was situated outside of Abattoir Blues Cafe Building C/1 Herb Elliott Ave, Sydney Olympic Park NSW 2127. Construction works being conducted south of location was audible. It was observed noise levels increased during these works. Noise levels appeared to be below the NML majority of the 15 minutes.
13/12/2022	7:49 AM	Westmead	26-30 Bailey Street, Westmead	Bored Piling Works	63	59	62.3	77.2	50.2	54.1	Verification monitoring for bored piling works to confirm if works are high noise and respite periods are required; Other construction works including excavators x 2 and soil nail installation being completed; Construction works audible at receiver; Background noise including traffic and trains audible over construction works during monitoring event
13/12/2022	8:00 AM	Westmead	154 Hawkesbury Road, Westmead	Bored Piling Works	61	59	75.7	94.9	58.1	63	Verification monitoring for bored piling works to confirm if works are high noise and respite periods are required; Other construction works including excavators x 2 and vibratory rolling for pilng pads; Construction works audible at receiver; Background noise including traffic and trains audible over construction works during monitoring event
13/12/2022	9:13 PM	Westmead	7 Park Parade, Westmead	Vacuum truck Section 2 HV	70	52	66.6	83	58	62	Works were compliant and under PNL. Alot of spikes in noise monitored were from traffic along Parks parade and trains running. Monitoring was conducted 30m from works occurring.

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
13/12/2022	9:33 PM	Westmead	1 Bailey Street, Westmead	Vac truck Section 2	78	52	55	69	47	52	Works were audible from.location. monitored from 100m away. Alot of ambient residential noises which created spikes. Works were compliant and verified. External noises dominated the spikes in recording. Vac truck noise levels ranged between 51-55db
13/12/2022	10:25 PM	Westmead	7 Park Parade, Westmead	Vac truck works Section 2	70	42	66	76	59	61	Vac truck appeared louder due to external factors from traffic, trains passing by and planes. Works were compliant and under the PNL.
13/12/2022	10:49 PM	Westmead	1 Bailey Street, Westmead (Park side)	Vac truck section 2	78	42	48	56	42	44	Vac truck audible at times ranging from 43-48db at times. Construction appeared louder with external noises from traffic. Works were compliant throughout the entirety. Noise levels were exceeded by external factors incl, residents, traffic, planes and trains running past.
14/12/2022	6:30 PM	Parramatta	244 Church Street, Parramatta	Handtools for concrete curing bentonite plant	57	70	56	66	52		Works were not audible, they were compliant - this is a commercial premises. Majority of noise was generated from echoeing works at macquarie st commercial compound. Metal creaking on sitr was most consistently audible Workers were visible
14/12/2022	10:05 PM	Westmead	1 Bailey Street, Westmead (Park side)	Section 1: vac truck works	85	42	60	67	57	58	Vac truck was audible throughout the entirety of the session ranging between 58-60db. Works were continuous. Noise modelling verified that it was not accurate
14/12/2022	10:28 PM	Westmead	11 Alexandra Avenue, Westmead	Section 1: Vac truck works	83	42	60	73	56	58	Vac truck was audible from monitoring location. Monitoring location was under 30m away from works occurring. Vac truck noise levels ranged between 58-61db. Works were compliant and met predicted noise levels
14/12/2022	10:48 PM	Westmead	10 Hassall Street, Westmead	Section 1: Vac truck	84	42	57	75	38	40	Works were not audible for the entirety of the monjtoring session, Other external noise generators dominated and caused spikes. When quiet and no disturbances it reaches 38db. Compliant
15/12/2022	11:21 PM	Westmead	10 - 12 Hassall Street, Westmead	Section 1 - trenching	70	42	65.7	83	54.3	61.3	Distance of source to monitor: 5m. Distance of monitor to receiver 8m. Trenching main source of noise. Local traffic on park parade and trains also audible. Result: work noise level aline with modelling and mitigation measures implemented
17/12/2022	9:15 AM	Parramatta	3 Weston Street, Rosehill	Vac truck + drilling works on Borehole Installation	62	61	74	86	61	66	Vac truck used to dig 1.5m before drill is set up for borehole. Works were audible when no traffic, 62-63db vac truck. Traffic dominated noise levels. Compliant
10/01/2023	9:07 PM	Parramatta	169 Macquarie Street, Parramatta	Sawcutting BH36 Macquarie Lane	69	55	67	85	56	67	Sawcutting audible however under PNL - this is an educational institution. Major spikes occurred during monitoring due to traffic and external factors of pedestrians and pedestrian crossing lights. Works were between 62-65db. Noise attenuation was setup facing receivers. Works were compliant despite Laeq being above PNL

Date	Time (hh:mm)	Site	Monitoring Location	Construction Activity	Modelled Prediction (L_{Aeq})	Noise Management Level (NML)	Measured 15-minute Noise Levels – dBA				Notes
							L_{Aeq}	L_{max}	L_{min}	L_{90}	
10/01/2023	9:27 PM	Parramatta	80-100 George Street, Parramatta	Sawcutting BH36 Macquarie Lane	60	70	62	74	51	55	Construction was inaudible throughout the whole noise monitoring session Spikes in noise monitoring with from external factors these included buses, loud cars and occasional bar music. Works were compliant. This is a hotel/restaurant complex
11/01/2023	9:36 PM	Parramatta	169 Macquarie Street, Parramatta	Drilling works BH36	63	55	59	70	54	56	Drilling was not audible throughout the entirety - this is an educational institution. External factors pedestrians and traffic were primary noise generators. Full attenuation around works were.up
17/01/2023	9:55 PM	Parramatta	75 Hassall Street, Parramatta	DSI BH35 Stage 2 Drilling	80	53	64.9	86.4	54.5	58.5	Monitoring distance to source 18m away. Monitoring location conducted next to main road Hassall street and Alfred. Noise mats installed around works as per OOHW mitigation measures. Traffic and traffic light crossing main source of noise . Noise levels spiked up when auger rammed into ground for soil density (76db)
17/01/2023	11:20 PM	Parramatta	5/1 Hunter Street, Parramatta	Section 6 - Trenching - excavation works	95	48	72.3	85.1	43.5	59	Monitoring distance to source 27m away. Monitoring location conducted near main roads Pitt Street and Hunter Street. Works were audible throughout the monitoring period. Noise echoed when works were conducted under and near the train line bridge. Vac truck was in audible and in use during monitoring period. Noise spiked up when a train passed over the bridge and when heavy and light vehicles drove past.
17/01/2023	3:45 PM	Parramatta	14 Pitt Street, Parramatta	HV Works - Section 5 Trenching	50	68	61.1	81.1	41.8	50.4	Monitoring distance to source 90m away. Works only audible during breaks in traffic sound levels (45-54dB). Traffic main source of sound.
18/01/2023	9:40 AM	Clyde Dive	ATC Stables - Eastern site boundary	Hoarding Installation	69	60	66.5	81.5	55.1	57.9	Distance of monitor to source: 6m. Distance of source to receiver: 6m. 5T excavator in use. Main source of noise: hoarding works. Cicadas added to overall noise level. Works conducted after 9am as requested by ATC stables. Result: compliant with modelling and within NML +10dB for standard hours meaning no additional mitigation measures required as per DNVIS. Result: compliant with modelling and mitigation measures implemented.

Appendix C – Real Time Monitoring Summary

Westmead

Gamuda Laing O'Rourke

SiteHive

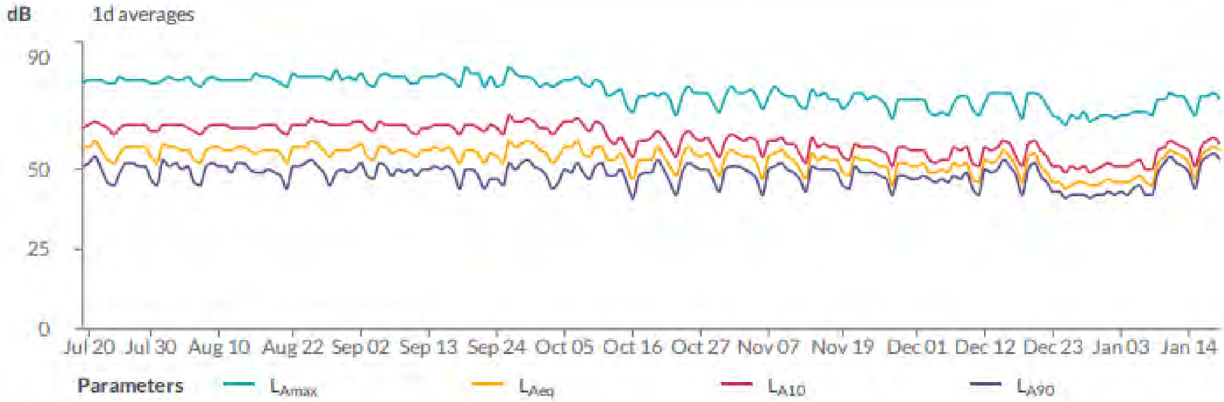
Sydney Metro WTP Westmead

Westmead - Real Time Monitoring Summary

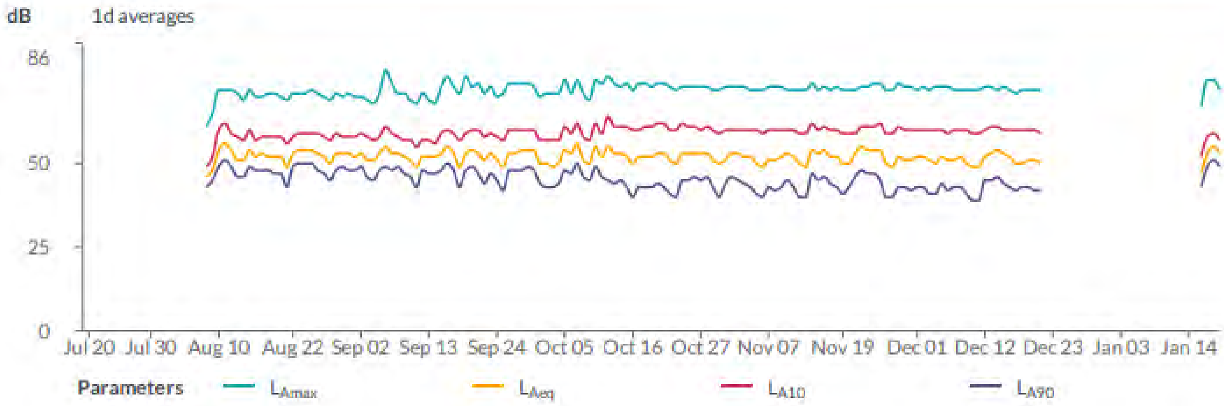
Noise Monitoring Statistics

Noise Monitoring Graphs

MSF 3in1 Pod (HEX-000007) **Jul 19 2022 - Jan 19 2023**



NW Hexanode HEX-000020 **Jul 19 2022 - Jan 19 2023**



Parramatta

Gamuda Laing O'Rourke

SiteHive

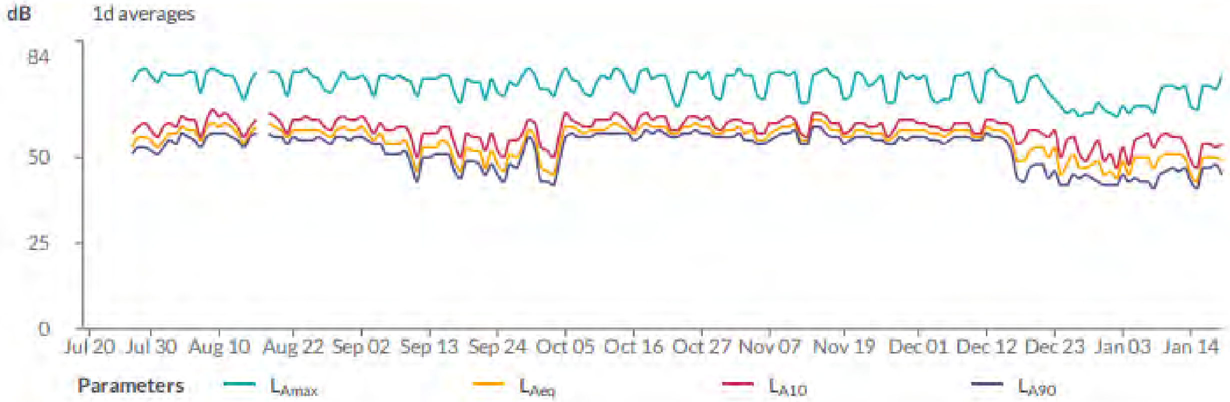
Sydney Metro West WTP Parramatta

Parramatta - Real Time Monitoring Summary

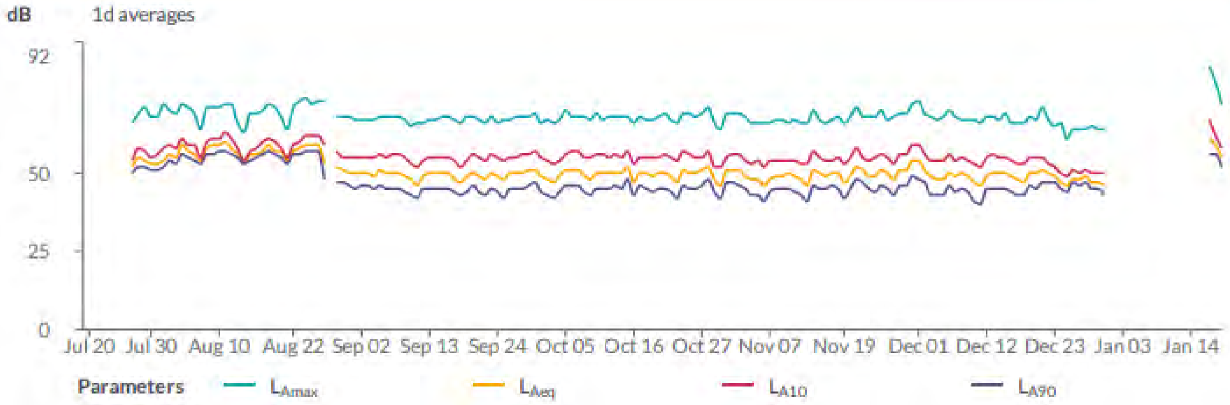
Noise Monitoring Statistics

Noise Monitoring Graphs

Parramatta Site Office — Jul 19 2022 - Jan 19 2023



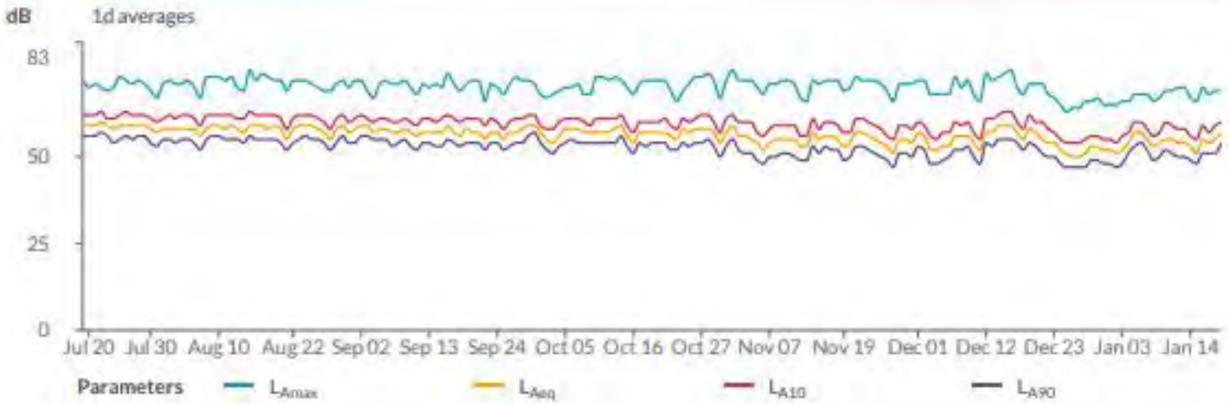
Parramatta Site: George St Boundary — Jul 19 2022 - Jan 19 2023



Clyde Dive

Noise Monitoring Graphs

CD Single (HEX-000025) Jul 19 2022 - Jan 19 2023



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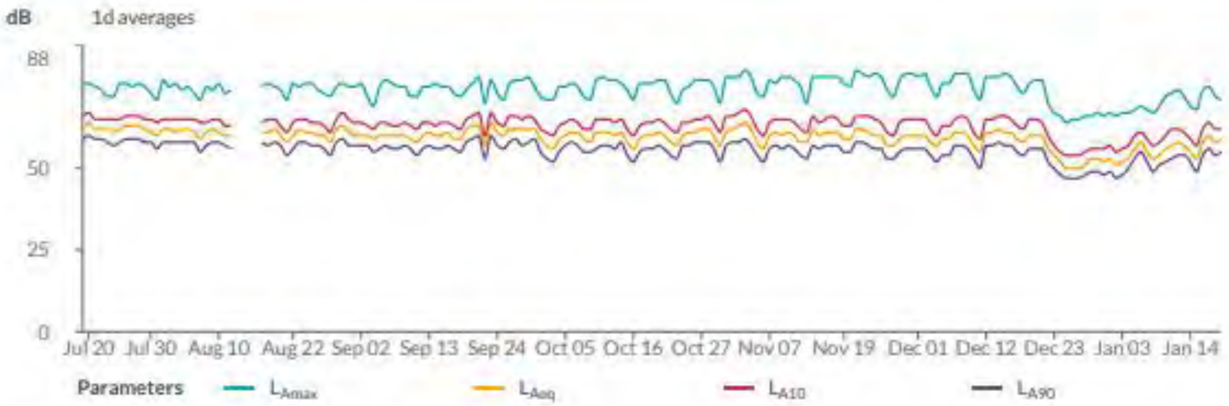

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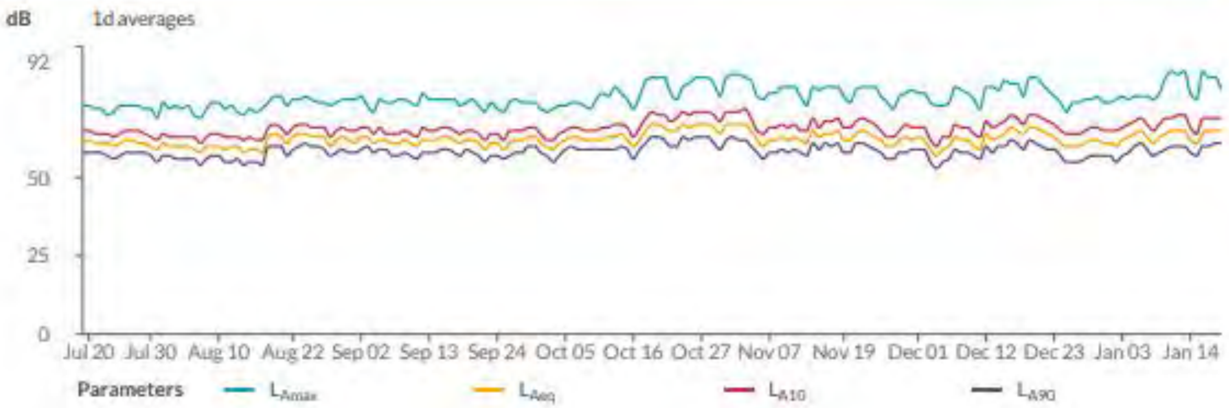

Appendix D – Vibration Monitoring Summary

Gamuda Laing O'Rourke

SiteHive

Sydney Metro West WTP Parramatta

WTP - Real Time Vibration Summary Report

Vibration Events

Date and time	Parameter	Value	Rule	Category	Device
27 Jul 2022 13:11	vSum	291.93	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
27 Jul 2022 13:11	vSum	355.69	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
27 Jul 2022 13:44	vSum	78.14	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
27 Jul 2022 13:47	vSum	6.94	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
27 Jul 2022 13:53	vSum	134.32	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
27 Jul 2022 13:54	vSum	110.22	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
29 Jul 2022 13:21 Moving to new location closer to Horwood Place entry gate	vSum	292.73	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
29 Jul 2022 13:22 Moving to new location closer to Horwood Place entry gate	vSum	242.25	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
31 Jul 2022 14:05	vSum	39.46	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
01 Aug 2022 09:01	vSum	72.87	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
01 Aug 2022 09:02	vSum	21.01	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
01 Aug 2022 09:22	vSum	5.12	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
01 Aug 2022 09:22	vSum	5.92	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
08 Aug 2022 10:45	vSum	1.57	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta

08 Aug 2022 11:02	vSum	5.92	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
08 Aug 2022 11:02	vSum	7.61	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
17 Aug 2022 11:57	vSum	335.30	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
Moving to new location closer to Horwood Place entry gate					
17 Aug 2022 11:57	vSum	323.83	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
Moving to new location closer to Horwood Place entry gate					
17 Aug 2022 11:58	vSum	300.82	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
Moving monitor to new location adjacent to heritage structure on George Street.					
17 Aug 2022 11:58	vSum	337.30	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
Moving monitor to new location adjacent to heritage structure on George Street.					
17 Aug 2022 11:58	vSum	337.28	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
Moving to new location closer to Horwood Place entry gate					
09 Sep 2022 12:39	vSum	111.14	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
Verifying it works accordingly					
15 Sep 2022 17:56	vSum	8.77	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.					
15 Sep 2022 17:58	vSum	13.90	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.					
15 Sep 2022 20:47	vSum	7.49	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.					
15 Sep 2022 20:50	vSum	5.30	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.					

15 Sep 2022 20:56	vSum	7.59	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.

15 Sep 2022 21:19	vSum	10.78	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.

15 Sep 2022 21:19	vSum	7.80	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish or broken into the area during those hours.

16 Sep 2022 00:59	vSum	5.93	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish.

22 Sep 2022 05:29	vSum	8.69	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Area was investigated with vibration meter unharmed, however a large quantity of rubbish was found around the meter which may have caused the trigger. It is believed someone may have thrown in rubbish. No works were occurring during the public holiday.

24 Sep 2022 13:54	vSum	7.64	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

27 Sep 2022 07:45	vSum	5.65	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta

Surveyor was working in the area. LIW

27 Sep 2022 23:44	vSum	6.14	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Potential rodents, no material was found around the meter.

28 Sep 2022 04:04	vSum	11.57	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

Potential rodents, no material was found around the meter.

29 Sep 2022 18:12	vSum	6.16	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

30 Sep 2022 11:31	vSum	6.57	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta

Surveyor moving past it

30 Sep 2022 11:35	vSum	10.61	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta

Surveyor moving past the plant/equipment

20 Oct 2022 13:03	vSum	15.02	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Worker was walking past it. Have made the workers well aware of the vibration meter so as to avoid it when feasible to.					
21 Oct 2022 07:18	vSum	230.37	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
21 Oct 2022 07:19	vSum	231.38	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
21 Oct 2022 07:19	vSum	188.61	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
21 Oct 2022 08:02	vSum	554.31	Vibration Waveform mm/s	Non GLC related	Kia Ora
No works were occurring during the weekend					
23 Oct 2022 12:55	vSum	7.51	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:55	vSum	8.17	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:55	vSum	5.82	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:56	vSum	5.55	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:56	vSum	26.29	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:56	vSum	10.31	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:56	vSum	10.22	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
23 Oct 2022 12:56	vSum	27.55	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					

23 Oct 2022 12:56	vSum	24.80	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
no works related					
24 Oct 2022 08:31	vSum	21.23	Vibration Waveform mm/s	Human movement	Kia Ora
area can be highly trafficked by individuals walking past					
25 Oct 2022 07:56	vSum	21.40	Vibration Waveform mm/s	Human movement	Kia Ora
25 Oct 2022 14:51	vSum	597.64	Vibration Waveform mm/s	Human movement	Kia Ora
highly trafficked walkway for workers					
25 Oct 2022 14:51	vSum	36.40	Vibration Waveform mm/s	Human movement	Kia Ora
highly trafficked walkway for workers					
26 Oct 2022 10:00	vSum	12.11	Vibration Waveform mm/s	Human movement	Kia Ora
26 Oct 2022 13:28	vSum	19.57	Vibration Waveform mm/s	Human movement	Kia Ora
26 Oct 2022 13:30	vSum	11.52	Vibration Waveform mm/s	Human movement	Kia Ora
26 Oct 2022 14:16	vSum	90.28	Vibration Waveform mm/s	Human movement	Kia Ora
27 Oct 2022 07:38	vSum	136.39	Vibration Waveform mm/s	Human movement	Kia Ora
27 Oct 2022 16:22	vSum	23.78	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
27 Oct 2022 16:22	vSum	71.29	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
27 Oct 2022 16:33	vSum	115.82	Vibration Waveform mm/s	Human movement	Kia Ora
28 Oct 2022 11:52	vSum	95.33	Vibration Waveform mm/s	Human movement	Kia Ora
02 Nov 2022 03:47	vSum	11.35	Vibration Waveform mm/s	Non GLC related	Kia Ora
02 Nov 2022 04:01	vSum	241.35	Vibration Waveform mm/s	Non GLC related	Kia Ora
02 Nov 2022 04:02	vSum	924.71	Vibration Waveform mm/s	Non GLC related	Kia Ora

02 Nov 2022 04:02	vSum	22.59	Vibration Waveform mm/s	Non GLC related	Kia Ora
02 Nov 2022 04:08	vSum	1149.15	Vibration Waveform mm/s	Non GLC related	Kia Ora
02 Nov 2022 11:47	vSum	194.44	Vibration Waveform mm/s	Human movement	Kia Ora
Vibration monitor relocated against building facade by Environment Manager					
02 Nov 2022 15:46	vSum	45.55	Vibration Waveform mm/s	Human movement	Kia Ora
03 Nov 2022 08:14	vSum	21.94	Vibration Waveform mm/s	Human movement	Kia Ora
03 Nov 2022 08:15	vSum	15.93	Vibration Waveform mm/s	Human movement	Kia Ora
03 Nov 2022 16:38	vSum	10.82	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
09 Nov 2022 08:01	vSum	17.78	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
09 Nov 2022 08:49	vSum	7.81	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
Minor Rockhammering. Works were monitored by Environment Representative, workers were aware of sensitive location.					
09 Nov 2022 08:50	vSum	10.19	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
Minor Rockhammering. Works were monitored by Environment Representative, workers were aware of sensitive location.					
09 Nov 2022 08:59	vSum	10.62	Vibration Waveform mm/s	Plant/Equipment	240 Church Street Parramatta
Minor Rockhammering. Works were monitored by Environment Representative, workers were aware of sensitive location.					
09 Nov 2022 16:43	vSum	14.89	Vibration Waveform mm/s	Human movement	Kia Ora
09 Nov 2022 16:43	vSum	11.60	Vibration Waveform mm/s	Human movement	Kia Ora
09 Nov 2022 16:43	vSum	19.55	Vibration Waveform mm/s	Human movement	Kia Ora
10 Nov 2022 07:51	vSum	22.69	Vibration Waveform mm/s	Human movement	Kia Ora
10 Nov 2022 07:52	vSum	10.37	Vibration Waveform mm/s	Human movement	Kia Ora
10 Nov 2022 07:52	vSum	13.37	Vibration Waveform mm/s	Human movement	Kia Ora

10 Nov 2022 08:21	vSum	13.80	Vibration Waveform mm/s	Human movement	Kia Ora
10 Nov 2022 08:21	vSum	19.64	Vibration Waveform mm/s	Human movement	Kia Ora
10 Nov 2022 08:22	vSum	20.49	Vibration Waveform mm/s	Human movement	Kia Ora
10 Nov 2022 12:20	vSum	13.16	Vibration Waveform mm/s	Plant/Equipment	Kia Ora
10 Nov 2022 14:53	vSum	12.17	Vibration Waveform mm/s	Plant/Equipment	Kia Ora
11 Nov 2022 08:22	vSum	32.53	Vibration Waveform mm/s	Human movement	Kia Ora
16 Nov 2022 09:03	vSum	26.14	Vibration Waveform mm/s	Plant/Equipment	Kia Ora
Vibration roller operated in error in an attempt to achieve compaction on pad surface. Activities ceased.					
16 Nov 2022 11:06	vSum	20.23	Vibration Waveform mm/s	Plant/Equipment	Kia Ora
Vibration roller operated in error in an attempt to achieve compaction on pad surface. Activities ceased.					
16 Nov 2022 11:06	vSum	22.76	Vibration Waveform mm/s	Human movement	Kia Ora
Vibration roller operated in error in an attempt to achieve compaction on pad surface. Activities ceased.					
17 Nov 2022 10:32	vSum	7.85	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Labourers walking in close proximity to monitor triggering limits.					
17 Nov 2022 10:59	vSum	232.48	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Labourers dropped roll of geofabric on monitor in error.					
17 Nov 2022 16:18	vSum	6.03	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
17 Nov 2022 16:41	vSum	296.17	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Moved the heritage item					
17 Nov 2022 16:41	vSum	244.16	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Moved the heritage item					
20 Nov 2022 03:39	vSum	7.37	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta

21 Nov 2022 16:05	vSum	8.62	Vibration Waveform mm/s	Vehicle Movement	240 Church Street Parramatta
22 Nov 2022 16:24	vSum	18.61	Vibration Waveform mm/s	Human movement	Kia Ora
Labour force dropped roll of black plastic adjacent to monitoring location.					
22 Nov 2022 16:42	vSum	312.28	Vibration Waveform mm/s	Installation	Kia Ora
Monitor moved to appropriate monitoring location					
22 Nov 2022 16:46	vSum	175.14	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
Monitor moved to appropriate monitoring location					
24 Nov 2022 07:40	vSum	708.11	Vibration Waveform mm/s	Installation	Kia Ora
Moving monitor from Roxy Theatre to George Street to monitor works adjacent to building. Note: no vibration sensitive activities being undertaken adjacent to Roxy Theatre throughout the shift.					
24 Nov 2022 07:40	vSum	376.40	Vibration Waveform mm/s	Installation	Kia Ora
Moving monitor from Roxy Theatre to George Street to monitor works adjacent to building. Note: no vibration sensitive activities being undertaken adjacent to Roxy Theatre throughout the shift.					
24 Nov 2022 07:41	vSum	396.82	Vibration Waveform mm/s	Installation	Kia Ora
Moving monitor from Roxy Theatre to George Street to monitor works adjacent to building. Note: no vibration sensitive activities being undertaken adjacent to Roxy Theatre throughout the shift.					
24 Nov 2022 07:44	vSum	428.41	Vibration Waveform mm/s	Installation	Kia Ora
Moving monitor from Roxy Theatre to George Street to monitor works adjacent to building. Note: no vibration sensitive activities being undertaken adjacent to Roxy Theatre throughout the shift.					
24 Nov 2022 07:44	vSum	389.60	Vibration Waveform mm/s	Installation	Kia Ora
Moving monitor from Roxy Theatre to George Street to monitor works adjacent to building. Note: no vibration sensitive activities being undertaken adjacent to Roxy Theatre throughout the shift.					
25 Nov 2022 11:48	vSum	67.29	Vibration Waveform mm/s	Human movement	Kia Ora
28 Nov 2022 00:25	vSum	5.88	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
01 Dec 2022 14:02	vSum	16.60	Vibration Waveform mm/s	Non GLC related	Kia Ora
05 Dec 2022 16:06	vSum	6.10	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
07 Dec 2022 10:43	vSum	14.37	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta

09 Dec 2022 09:18	vSum	73.93	Vibration Waveform mm/s	Human movement	Kia Ora
Heritage Team walked around it					
09 Dec 2022 09:34	vSum	15.64	Vibration Waveform mm/s	Plant/Equipment	Kia Ora
Tipper tailgate slamming - Subcontractor. Had a chat with them about what they can and cannot do there.					
09 Dec 2022 15:22	vSum	549.88	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
09 Dec 2022 15:23	vSum	344.58	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
09 Dec 2022 15:23	vSum	343.74	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
09 Dec 2022 15:23	vSum	340.87	Vibration Waveform mm/s	Installation	240 Church Street Parramatta
12 Dec 2022 10:35	vSum	15.16	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Personnel interaction					
12 Dec 2022 15:04	vSum	11.05	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Personnel interaction					
13 Dec 2022 04:06	vSum	31.50	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
13 Dec 2022 07:25	vSum	11.72	Vibration Waveform mm/s	Human movement	240 Church Street Parramatta
Personnel interaction wuth monitor					
13 Dec 2022 09:34	vSum	22.25	Vibration Waveform mm/s	Plant/Equipment	Kia Ora
Truck and dog arriving in immediate area					
23 Dec 2022 05:20	vSum	39.84	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
No site activities currently being undertaken - Xmas/2023 break					
06 Jan 2023 12:49	vSum	16.32	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
No construction activities being undertaken during Xmas/NYE break.					
06 Jan 2023 16:25	vSum	8.12	Vibration Waveform mm/s	Non GLC related	240 Church Street Parramatta
No construction activities being undertaken during Xmas/NYE break.					

11 Jan 2023 08:45	vSum	385.64	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:46	vSum	364.58	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:46	vSum	381.82	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:46	vSum	390.33	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:46	vSum	377.44	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:47	vSum	559.02	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:47	vSum	668.16	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:47	vSum	411.18	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
11 Jan 2023 08:48	vSum	725.15	Vibration Waveform mm/s	Installation	Kia Ora
Site installation of monitor to monitor at Kia Ora location.					
16 Jan 2023 15:08	vSum	10.63	Vibration Waveform mm/s	Human movement	Kia Ora
Fencing adjacent to the Kia Ora building was being realigned and monitor was bumped by labour force. No vibration intensive activities being completed at the time of this event.					

Attachment B – Surface Water Quality Monitoring Report

Surface Water Quality Monitoring Report

Sydney Metro West – Western Tunnelling Package

July 2022 to January 2023

ISSUE DATE: 16 MARCH 2023

Document Details

Document Title	**Surface Water Quality Monitoring Report**
Project Name	**Sydney Metro West – Western Tunnelling Package**
Client	**Sydney Metro**
GA Project No.	**00013/13065**
Document Reference No.	**SMWSTWTP-GLO-1NL-EN-RPT-000004**
Principal Contractor	**Gamuda Australia**
ABN	**27 632 738 768**
Project Address	**L8, 60 Station Street, Parramatta NSW 2150**

Revision History

Revision	Date	Description of changes	Prepared by	Reviewed by
A	03/03/2023	First draft for internal review	D. Windnagel	D. Mudd
B	16/03/2023	Revised draft for submission	D. Windnagel	S. Mifsud

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DOCUMENT CONTROL

The current document version number and date of revision are shown in the document footer. All changes made to the Management Plan during its implementation on a live project are to be recorded in the amendment tables below.

Revision History

Revision	Date	Description of changes	Prepared by	Reviewed by
A	03/03/2023	First draft for internal review	D. Windnagel	D. Mudd
B	10/03/2023	Revised draft for submission	D. Windnagel	S. Mifsud

Terms and Definitions

Term	Definition
ANZG	Australian and New-Zealand Guidelines 2018
CBD	City Business District
CEMF	Construction Environmental Management Framework
CSSI	Critical State Significant Infrastructure
DPE	Department of Planning and Environment (NSW)
D-Wall	Diaphragm Wall
EIS	Environmental Impact Assessment
EPA	Environment Protection Authority
ER	Environmental Representative
FRP	Form Reo Pour
GLC	Gamuda Australia – Laing O'Rourke Consortium
MCoA	Ministers' Condition of Approval
MSF	Maintenance and Stabling Facility
REMM	Revised Environmental Mitigation Measures
SM	Sydney Metro
SMW	Sydney Metro West
SSI	State Significant Infrastructure
SWQMoP	Surface Water Quality Monitoring Program
SWMP	Soil and Water Management Plan
WQO	Water Quality Objectives (NSW)
WTP	Sydney Metro West Western Tunnelling Package works

1 INTRODUCTION

1.1 Project description

Sydney Metro West (SMW) is a new underground railway connecting Greater Parramatta and the Sydney CBD. It will provide fast connections between greater Sydney's two major business centres as well as providing better access to the growing business and entertainment precincts in Olympic Park and Pyrmont, the health and medical research hub at Westmead and the future business and tourism site at The Bays.

An Environmental Impact Statement (EIS) (Jacobs/Arcadis, 2020) for the Concept and Stage 1 assessed the surface water quality impacts in response to the Secretary Environmental Assessment Requirements issued by the Department of Planning and Environment (DPE). The Project was approved on 11 March 2021 (SSI 10038).

Sydney Metro is delivering the Sydney Metro West project via several different packages, including the Western Tunnelling Package (WTP, the Project).

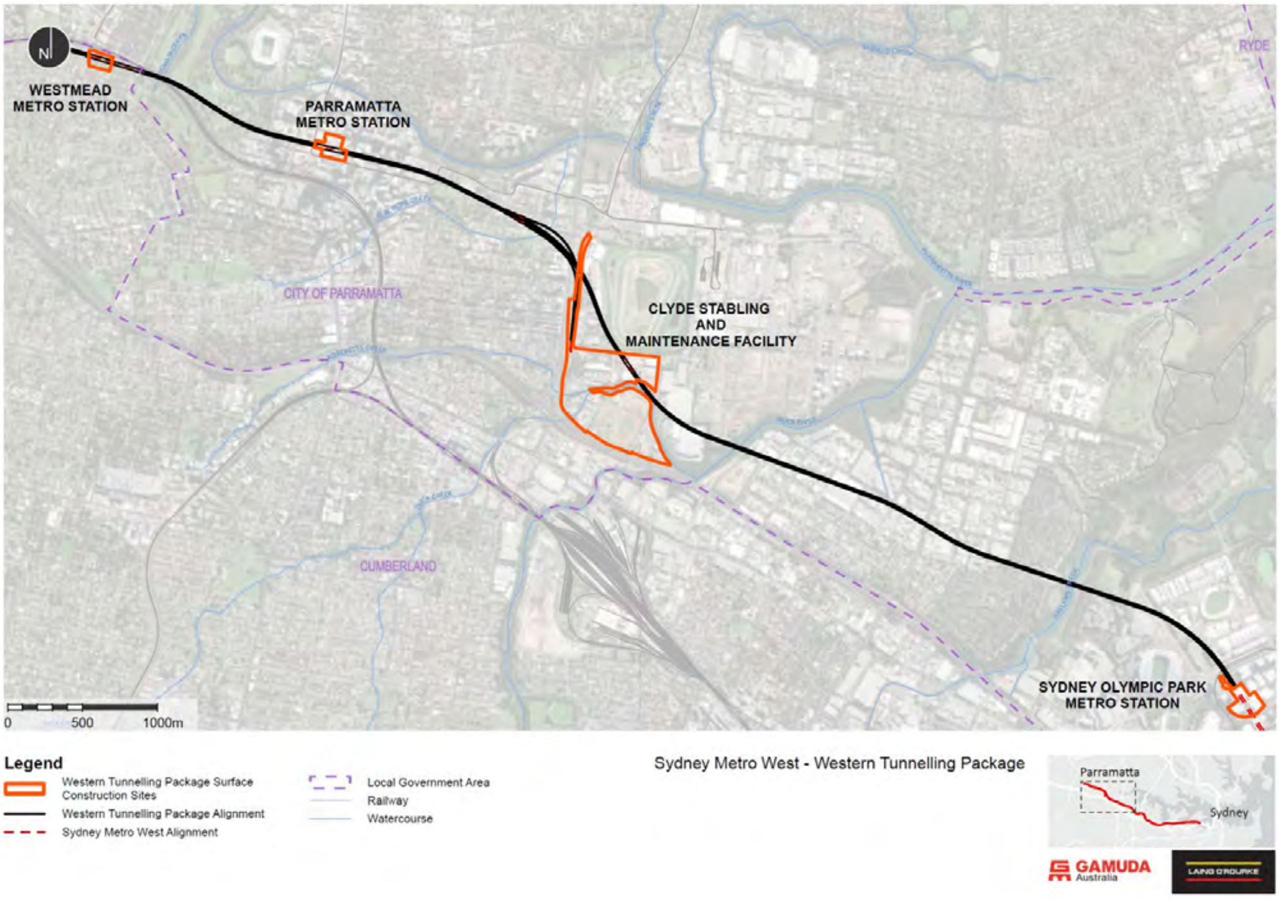

Figure 1 WTP Project Map Overview

1.2 Project requirements

The Surface Water Quality Monitoring Program (SWQMoP) for the Project (SMWSTWTP-GLO-1NL-EN-PRG-000001) was developed to meet the requirements of Ministers Condition of Approval (MCoA) C14 and (REMM) SSWQ6. The SWQMoP sets out the requirement to develop and issue a Surface Water Quality Monitoring Report (this report), collating surface water quality monitoring data. This report collates surface water monitoring undertaken during the first six months of construction, from 19th July 2022 to 19th January 2023.

The Project requirements relevant to the preparation of this Monitoring Report are identified in Table 1. A document reference is also included to indicate where the requirement is addressed in this Monitoring Report or other documents. Additional monitoring requirements are outlined in the SWQMoP and surface water quality project requirements are outlined in the Soil and Water Management Plan (SWMP).

Table 1: Monitoring Report Compliance Matrix

Reference	Requirement	Document Reference
MCoA C23	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.	This document
MCoA D117	Stage 1 of the CSSI must be designed and constructed so as to maintain the NSW Water Quality Objectives (NSW WQO) where they are being achieved as at the date of this approval, and contribute towards achievement of the NSW WQO over time where they are not being achieved as at the date of this approval, unless an EPL in force in respect of the CSSI contains different requirements in relation to the NSW WQO, in which case those requirements must be complied with.	This document
CEMF 12.2	iii. All water will be tested (and treated if required) prior to discharge from the site in order to determine compliance with relevant approvals and licence requirements. No water will be discharged from the site without written approval of the Contractor's Environmental Manager (or delegate). This is to form a Hold Point.	This document
REMM SWQW6	A surface water monitoring program would be implemented to observe any changes in surface water quality that may be attributable to Stage 1 and inform appropriate management responses. The program would be developed in consultation with the EPA and relevant Councils. The program would consider monitoring being undertaken as part of other infrastructure projects such as the WestConnex M4 East monitoring. Monitoring would occur during pre-construction and during construction at all waterways with the potential to be impacted. Monitoring sites could be located upstream and downstream of the potential	Section 3.4, 3.6 and 4

Reference	Requirement	Document Reference
	discharges and would include sampling for key indicators of concern.	
SWQMoP	During construction, surface water quality data will be collected, tabulated and assessed against baseline conditions and performance criteria	This report
SWQMoP	The six-monthly monitoring reports will be submitted to the Planning Secretary, the ER, EPA and Sydney Water within 40 days of the reporting period unless otherwise agreed with the Planning Secretary	Section 1.3

1.3 Endorsement and publication

In accordance with the SWQMoP, this report will be issued for information to the Planning Secretary, the ER, EPA and Sydney Water within 40 days of the reporting period.

In line with MCoA B11(e), a copy of the Construction Monitoring Report will be published on the project website within a week following submission to DPE.

2 DESCRIPTION OF WORKS

2.1 Environment setting

The Project is located within the upper estuary of the Parramatta River Catchment, one of the main tributaries of Sydney Harbour. The Parramatta River catchment and Sydney Harbour includes the Sydney CBD and significant commercial districts of North Sydney and Parramatta. The catchment is highly urbanised and altered from its natural state, with pockets of open spaces and parkland. Most of the catchment is estuarine, up to the tidal limit at Charles Street weir in Parramatta, with freshwater watercourses in the upper catchments of the tributaries of Parramatta River.

Chapter 19 of the Sydney Metro West EIS identifies the water courses listed in Table 2 as being relevant to the Western Tunnel Package's three key surface construction sites.

Table 2 Water Courses relevant to the Sydney Metro West – Western Tunnel Package

Stage 1 Construction Site	Watercourse	Receiving Waters
Westmead Metro Station	• Domain Creek	• Parramatta River
Parramatta Metro Station	• Parramatta River • Clay Cliff Creek	• Parramatta River
Clyde Maintenance and Stabling Facility (MSF)[1]	• Duck River • Duck Creek • A'Becketts Creek	• Parramatta River

[1] The Clyde MSF consists of three sub-sites, specifically the Clyde Maintenance Facility, Clyde Dive Site, and the Rose Hill Site.

Domain Creek is located downstream of the Westmead Site and is the first point of contact for water which drains into the local stormwater system. Water from Domain Creek then drains directly into the Parramatta River and, ultimately, into Sydney Harbour.

Surface water from within the vicinity of the Parramatta site drains into the local stormwater system which drains directly to the Parramatta River, upstream of the Parramatta Wharf. Although the EIS states that Clay Cliff Creek is relevant to the Parramatta site, no water from the project drains into this creek.

Water collected from the activities at Clyde Maintenance and Stabling Facility (MSF) is discharged through a WTP directly into Duck River, avoiding the smaller creek catchments of Duck Creek and A'Becketts Creek as per the requirements of the Water Pollution Impact Assessment provided to the EPA. Stabilised surface water runoff is collected in protected stormwater pits which flow into Duck Creek and A'Becketts Creek which are tributaries of Duck River. Duck River drains into the Parramatta River then eventually the greater Sydney Harbour catchment

Groundwater has been intersected in the shaft excavation at the Clyde Dive Site and within the Rosehill box excavation. Groundwater is being transferred over to the Rosehill temporary water treatment plant for treatment and discharged through EPL discharge Point 2 or taken offsite to be disposed of at a licenced facility.

2.2 Project activities undertaken during the reporting period

Construction activities undertaken during the reporting period are summarised in ***Table 4*** below. Only three sites had minor volumes of water discharged offsite during the reporting period. As part of the Project construction, up to four water treatment plants are currently anticipated to be commissioned as outlined in ***Table 3***.

Table 3 Water treatment plants to be commissioned for the Project

Water treatment plant	Discharge point	Status during reporting period
Rosehill short term construction water treatment plant	Duck River	Commissioning commenced 25th October 2022. Plant operating at full capacity from 12th Jan 2023.
Rosehill long term construction water treatment plant	Duck River	Not operational – approved discharge point as noted in EPL 21676
Parramatta construction water treatment plant	Parramatta River, downstream of the Charles Street weir	Not operational
Westmead construction water treatment plant	Parramatta River, stormwater system on Alexandra Avenue	Not operational – approved discharge point as noted in EPL 21676

Table 4 Construction activities undertaken during the reporting period

SITE	CONSTRUCTION ACTIVTIES	OFFSITE DISCHARGE
Westmead	• Site preparatory works • Initial investigation work • Protecting and/or relocating utilities • Establishing site amenities • Establishing vehicle access and egress points • Establishing concrete slabs or piling platforms • Delivery of Equipment • General operation of ancillary facilities	No
Parramatta	• Site preparatory works • Initial investigation work • Archaeological clearance • Removal and/or relocating utilities • Establishing vehicle access and egress points • Delivery of equipment • General operation of ancillary facilities	No
Clyde Dive	• Construction site establishment/haul roads • Demolition of former Rosehill station • Establishing piling platforms • Tree clearing • Shaft excavation and piling • Establishing concrete slabs/acoustic shed • Bulk earthworks • Haul road Form Reo Pour (FRP) and hoarding installation • General operation of ancillary facilities	Yes, transfer to Rosehill Temporary WTP.
Clyde MSF	• Construction site establishment/demolition of structures • Traffic adjustment • Haul roads and site amenities • Earthworks • Utility trench and services corridor • Water conveyance structure – construction • Unwin Street Diversion – construction • General operation of ancillary facility • Utility adjustment works	No
Rosehill	• Diaphragm wall (D-Wall) construction • Diaphragm wall (D-Wall) construction • Box excavation • FRP concrete work • Delivery of equipment • General operation of ancillary facility	Yes, EPL discharge point 2.

SITE	CONSTRUCTION ACTIVTIES	OFFSITE DISCHARGE
Sydney Olympic Park	• No works undertaken	No

3 MONITORING METHODOLOGY

3.1 Methodology

The SWQMoP outlines the methodology to be adopted in monitoring surface water during construction. It outlines the proposed monitoring locations, schedule for monitoring and the methodology including calibration requirements.

Additionally, the SWQMoP outlines a four-step method to assessing the results in construction compliance reports. Due to the highly variable background results, a step-based trigger action approach will be applied when reviewing and responding to the surface water quality monitoring results to determine the significance of the exceedance(s) and possible causes. The assessment of the results obtained during this reporting period is further discussion in Section 4 below.

3.2 Equipment and analysis

Monitoring locations were sampled in general accordance with the SWQMoP. Samples were collected from approximately 150mm below the water surface (where achievable) using national association of testing authorities (NATA) accredited laboratory, Envirolab, supplied water sampling containers. Samples were then placed on ice and held in an insulated container until delivery to the NATA accredited laboratory under chain of custody protocol. The samples were submitted for analysis for all parameters required in the SWQMoP.

WQOs were measured in-situ at each sampling location using a Horiba multi-probe monitoring device and general site conditions were noted. A calibration check was undertaken at the start of each sampling round to ensure that the monitor was reading accurately. In addition, calibration was checked periodically throughout the monitoring events to ensure that the multiprobe device was reading accurately.

3.3 Sampling during the reporting period

In accordance with the SWQMoP, surface water monitoring is required under the scenarios detailed in ***Table 5***.

Table 5 Surface Water Monitoring Schedule

Type	Frequency	Standards	Responsibility
Monthly Water Quality Monitoring	Monthly	WQOs ANZG 2018	Environmental Coordinator/Manager
Wet Weather Water Quality Monitoring	Occur on average once a quarter, within 48 hours (where practical) of a rainfall vent that is > 25 mm of rain over a 24- hour period in the local catchment	WQOs ANZG 2018	Environmental Coordinator/Manager
Incident	At any time in response to a complaint or	WQOs	Environmental

Response	incident	ANZG 2018	Coordinator/Manager

Seven monthly monitoring rounds were completed in this reporting period. Two of the monthly monitoring events constituted wet weather sampling events as they were undertaken within 48 hours of rain events exceeding 25mm of rain.

No sampling events were undertaken in response to incidents during the reporting period.

Refer to ***Table 6*** for detail of all monitoring undertaken during the reporting period.

Table 6 Surface water sampling events during the reporting period

Date	Sampling Round Type	Parameters Monitored	Comments
28/07/2022	Monthly	WQOs ANZG 2018	All sampling points captured
29/08/2022	Monthly	WQOs ANZG 2018	All sampling points captured
5/09/2022	Monthly Wet weather	WQOs ANZG 2018	All sampling points captured
11/10/2022	Monthly Wet weather	WQOs ANZG 2018	Sample point SW02 could not be accessed due to construction activities. Omitted from sampling round
28/11/2022	Monthly	WQOs ANZG 2018	All sampling points captured
16/12/2022	Monthly	WQOs ANZG 2018	All sampling points captured
17/01/2023	Monthly	WQOs ANZG 2018	All sampling points captured

3.4 Monitoring locations

The surface water sampling locations are detailed in ***Table 7*** below and shown graphically in Figures 2 and 3. It is noted that sampling locations SW03 and SW08 slightly differ in location to the SWQMoP sampling locations due to access constraints. Surfacewater monitoring will continue at the locations at the figures below and the SWQMoP will be revised to reflect the changes.

Table 7 Sydney Metro West - WTP surface water sampling locations

Sample Name	Waterway	Rationale	Nearest Access Point	Coordinates
SW01-WTP	Duck Creek	Upstream of Clyde SMF Construction sites	Kay Street	33°49’50.82”S 151° 1’19.32”E
SW02-WTP	Duck Creek	Downstream of Clyde SMF Construction sites / before confluence with Duck River	Deniehy Street	33°49’58.58”S 151° 1’41.11”E
SW03-WTP	Duck River	Downstream of Clyde SMF Construction sites / after confluence with Duck Creek	Holker Street, Silverwater	33°82’93.86” S 151° 0’24.68”E
SW04-WTP	Parramatta River	Upstream of potential treatment plant discharge location	Parramatta River Walk (upstream Barry Wilde Bridge)	33°48’42.85”S 151° 0’25.03”E

Sample Name	Waterway	Rationale	Nearest Access Point	Coordinates
SW05-WTP	Parramatta River	General streamflow sample	Parramatta River Walk (upstream Elizabeth Street Footbridge)	33°48’45.57”S 151° 0’30.41”E
SW06-WTP	Parramatta River	Targeting saltwater zone below weir	Parramatta River Walk (upstream Ferry Wharf)	33°48’47.83”S 151° 0’35.37”E
SW07-WTP	Domain Creek	Downstream of Westmead Construction Site	West Domain Avenue	33°48’33.46”S 150°59’35.58”E
SW08-WTP	Duck River	Upstream of confluence with Duck Creek	Access from Deniehy Street via cycle path	33°83’52.91”S 151°02’94.05”E
SW09-WTP	A’Becketts Creek	Upstream of Clyde MSF construction sites	Clyde Dive Construction Site	33°49'46.2"S 151°01'12.3"E

Figure 2 Sydney Metro West - WTP Western surface water sampling locations (Parramatta and Westmead)

Figure 3 Sydney Metro West - WTP Eastern surface water sampling locations (Clyde MSF)

3.5 Parameters and Contaminants of concern

As outlined in the SWQMoP, the surface water monitoring parameters adopted for the Project are detailed in ***Table 8***. The following toxicant parameters were sampled in accordance with Section 7.4.2 of the SWQMoP:

- Metals (As III, AS V, Cd, Cr III, Cr VI, Cu, Co, Fe, Hg, Pb, Mn, Ni, Zn)
- Benzene, toluene, ethylbenzene, xylene, naphthalene
- Polycyclic aromatic hydrocarbons
- Nutrients and Inorganics – total nitrogen, total phosphorous, total oxidized nitrogen, nitrate, nitrite, total ammonia
- Per- and polyfluoroalkyl substances (PFAS)
- Petroleum hydrocarbons

Table 8 Sydney Metro West - WTP adopted surface water monitoring assessment criteria

Indicator / **Parameter**	Upper Estuary	Lowland Rivers
Turbidity (NTU)	0.5 – 10	6 - 50
Dissolved Oxygen (%)	80 -110%	85 – 110%
Conductivity (µS/cm)	NA	125 - 2200
pH (units)	7.0 – 8.5	6.5 – 8.5
Oil and grease	None visible on surface	None visible on surface
Toxicants (listed below)	ANZG 2018	ANZG 2018

3.6 Baseline data (pre-construction)

The Sydney Metro West EIS does not contain any baseline surface water quality data. In lieu of any baseline data, a review of data sourced from surrounding major projects and additional pre-construction surface water quality sampling was undertaken. Surface water monitoring sourced from other projects is detailed in ***Table 9***.

Although these results will give an indication of pre-construction water quality, it should be noted that in most instances not directly comparable to WTP sampling locations sampled in this report and should only be used as a reference point.

Table 9 Baseline Water Quality Data (Source: Sydney Metro West EIS)

Indicator	ANZECC/ARCANZ WQ Guidelines 2000	Duck River	Duck Creek (Kay St)	Parramatta River (Barry Wilde Bridge)	Parramatta River (Elizabeth St Footbridge)	Parramatta River (Upstream of Ferry Wharf)
Turbidity (NTU)	0.5–10	37.1	24.1	14.3	10.05	14
Dissolved Oxygen (mg/L)	N/A	4.9	7.4	8.7	9.0	7.6
Dissolved Oxygen (%)	85-110	49.2	67.3	95.4	98.2	82.4
Conductivity (mS/cm)	Lowland rivers: 125–2200 µS/cm	7.00	1.42	452.5	457	432
Salinity (ppt)	N/A	7.5	0.71	-	-	-
pH	7.0 – 8.5	7.50	7.98	7.97	8.20	7.4

To provide more accurate baseline data for comparison throughout construction of the Project, a total of six pre-construction sampling rounds were undertaken at the nominated sampling points in the SWMP. Laboratory reports containing data from the pre-construction sampling rounds is attached to this report in ***Attachment A*** and compared against the assessment criteria in ***Attachment B.*** As the GLC SWQMoP has collected a significant volume of like for like pre-construction baseline data, the data presented in Table 9 will be omitted from further discussion in this report.

The pre-construction baseline monitoring highlights that several parameters are already present in surface water above the adopted trigger levels. This is likely attributed to the highly disturbed nature of the waterways surrounding the Project footprint. Parameters that were recorded above the adopted assessment criteria in pre-construction sampling rounds are detailed in ***Table 10*** and described below:

- Turbidity and dissolved oxygen were consistently recorded outside the adopted criteria across all sample locations. This is indicative that water quality is poor in the sampled catchments.
- Several toxicant parameters including nutrients, heavy metals and PFAS were also consistently recorded outside the adopted assessment criteria. This is likely attributed to the historic large-scale commercial/industrial practices undertaken in the catchments and also upstream.
- All waterways sampled as part of the surface water sampling regime are also part of the local stormwater catchments accepting large flows of stormwater runoff from the greater Parramatta area.

Refer to ***Attachment B*** for the adopted assessment criteria for each sampling location.

Table 10 Pre-Construction Monitoring Results in Excess of the Adopted Assessment Criteria

Sample Location	Parameter	Max Concentration Recorded	Assessment Criteria
SW01	Turbidity Dissolved Oxygen Phosphorus Total Nitrogen Copper Manganese Zinc PFOS TRH C10 – C40	50.9 NTU 24.3% 0.3 mg/L 2.7mg/L 6 µg/L 350 µg/L 45 µg/L 0.13 µg/L 220 µg/L	0.5 – 10 NTU 80 – 110 % 0.03 mg/L 2.4 mg/L 1.3 µg/L 80 µg/L 8 µg/L 0.13 µg/L Presence
SW02	Turbidity Dissolved Oxygen Phosphorus Copper Manganese Zinc	60.5 NTU 13.3% 0.1 mg/L 5 µg/L 230 µg/L 35 µg/L	0.5 – 10 NTU 80 – 110 % 0.03 mg/L 1.3 µg/L 80 µg/L 8 µg/L
SW03	Turbidity Dissolved Oxygen Phosphorus Copper Manganese Zinc	80.8 NTU 36.3 % 0.1 mg/L 6 µg/L 99 µg/L 47 µg/L	0.5 – 10 NTU 80 – 110 % 0.03 mg/L 1.3 µg/L 80 µg/L 8 µg/L
SW04	Turbidity Dissolved Oxygen Phosphorus Total Nitrogen Copper Zinc	73.6 NTU 61 % 0.5 mg/L 3.6 mg/L 3 µg/L 10 µg/L	6 – 10 NTU 85 – 110 % 0.035 mg/L 2.4 mg/L 1.4 µg/L 8 µg/L
SW05	Turbidity Dissolved Oxygen Phosphorus Total Nitrogen Copper Zinc	84.6 NTU 54.5 % 0.1 mg/L 3.5 mg/L 3 µg/L 9 µg/L	6 – 10 NTU 85 – 110 % 0.035 mg/L 2.4 mg/L 1.4 µg/L 8 µg/L
SW06	Turbidity Dissolved Oxygen Phosphorus Manganese Zinc	114 NTU 52.9 % 0.1 mg/L 81 µg/L 9 µg/L	6 – 10 NTU 85 – 110 % 0.035 mg/L 80 µg/L 8 µg/L
SW07	Turbidity Dissolved Oxygen Phosphorus Chromium	28.3 NTU 41.1 % 0.1 mg/L 1 µg/L	6 – 10 NTU 85 – 110 % 0.035 mg/L 0.001 µg/L

Sample Location	Parameter	Max Concentration Recorded	Assessment Criteria
	Copper Zinc	6 µg/L 700 µg/L	1.4 µg/L 8 µg/L
SW08	Turbidity Dissolved Oxygen Phosphorus Copper Manganese Zinc	104 NTU 19.9 % 0.3 mg/L 7 µg/L 110 µg/L 510 µg/L	0.5 – 10 NTU 80 – 110 % 0.03 mg/L 1.3 µg/L 80 µg/L 8 µg/L
SW09	Turbidity Dissolved Oxygen Phosphorus Copper Manganese Zinc	70.7 NTU 49.7 % 0.1 mg/L 6 µg/L 100 µg/L 450 µg/L	0.5 – 10 NTU 80 – 110 % 0.03 mg/L 1.3 µg/L 80 µg/L 8 µg/L

4 RESULTS

4.1 Rainfall summary

Rainfall statistics from the monitoring period are displayed in ***Figure 4.*** Notably high rainfall was recorded in the months of July 2022, September 2022, October 2022 and January 2023. The rest recorded lower than average rainfall. Elevated rainfall recorded in July 2022 was attributed to a single event which fell outside the monitoring period. Overall, the monitoring period is considered to be wetter than average attributed to the La-Ninã weather cycle.

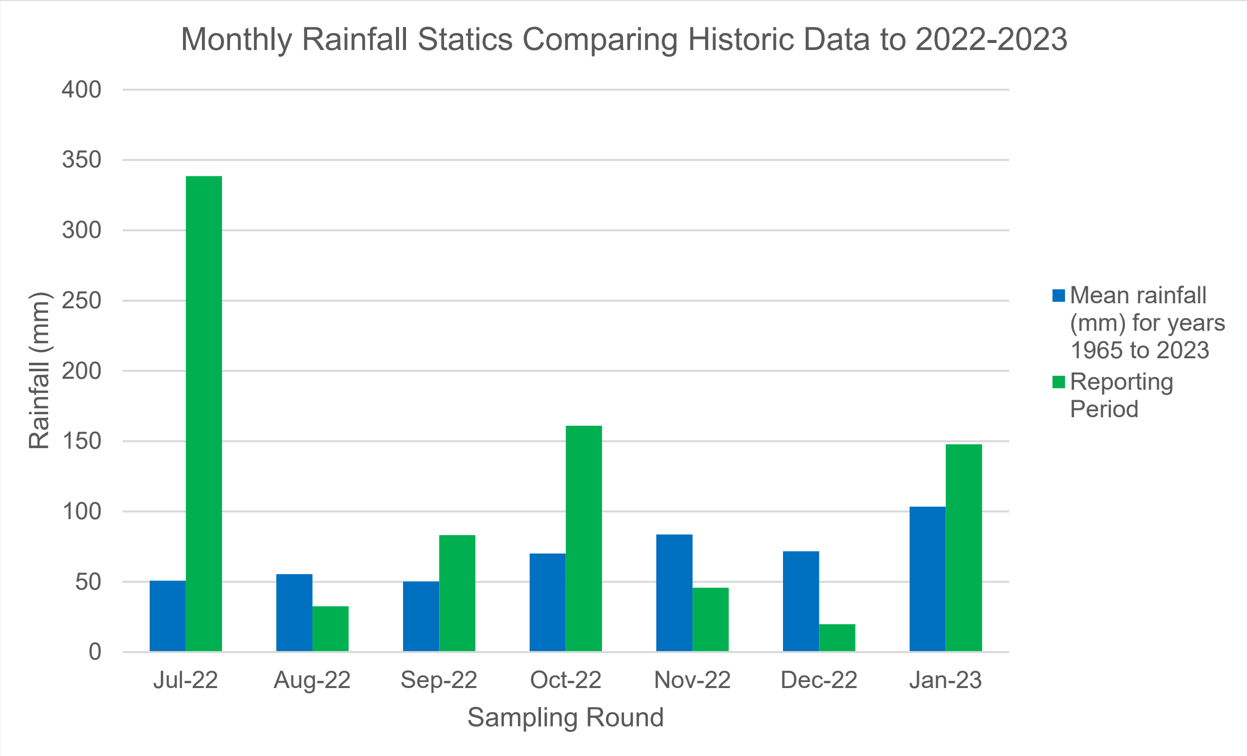

Figure 4 Rainfall statistics recorded during the monitoring period compared against historic averages

4.2 Monitoring results

Tabulated monitoring results are attached to this report in ***Attachment 1***. Monitoring data has been compared against the relevant WQOs and ANZG 2018 assessment criteria. Laboratory certificates are attached in ***Attachment 2***.

Consistent with the pre-construction sampling, several parameters were recorded in excess of the assessment criteria in all sampling points.

5 DISCUSSION

5.1 Assessment of results

Where results were returned outside the performance criteria, they were assessed in accordance with the four-step process detailed in the SWQMoP and discussed below.

5.1.1 Step 1

'In the event of an exceedance of any of the trigger values, a review will be initiated to determine the significance of the exceedance and the possible causes'.

Surface water sampling results were compared against the relevant WQOs and ANZG 2018 assessment criteria. The number of results recorded outside the assessment criteria is listed in ***Table 11***. As such, further analysis of these parameters was undertaken in accordance with Step 2 of the Surface Water Quality Monitoring Program, see below.

Table 11 Number of parameters recorded outside the assessment criteria in each sampling round

Sample Point	Number of Parameters Recorded Outside the Assessment Criteria						
	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
SW01	6	5	4	6	4	13	6
SW02	5	5	4	N/A[1]	4	3	5
SW03	5	3	5	7	6	5	3
SW04	7	4	5	7	4	3	2
SW05	7	4	6	6	4	5	5
SW06	4	2	5	7	4	2	3
SW07	6	5	5	5	7	5	2
SW08	5	5	5	5	5	5	2
SW09	6	6	5	5	5	5	4

[1] SW02 not sampled – access blocked

5.1.2 Step 2

'A comparison will be undertaken between the upstream and downstream values'.

For the parameters that exceed the adopted assessment criteria, an assessment was undertaken comparing the results of up and down stream sampling locations. Where the downstream concentration of contaminants are consistent with, or less than the upstream contaminant concentrations, no further action would be taken.

Further investigation was deemed necessary under the following circumstances:

1. Where the downstream value is greater than 2x than the upstream value for any parameter that exceeds the adopted trigger criteria upstream of the project site (i.e., ANZG / ANZECC DGVs), steps 3-4 would be followed.
2. Where the downstream value exceeds the adopted trigger criteria (i.e., ANZG / ANZECC DGVs) and upstream value does not steps 3-4 would be followed.

A comparison of upstream and downstream results where there was an exceedance of the assessment criteria. Following the assessment under Step 2, it was identified that there were 15 instances where downstream sampling points recorded concentrations of an analyte more than twice an upstream sampling location, or exceeded the assessment criteria where the upstream sampling location did not as outlined in ***Table 12*** below. This occurred only in samples collected from Clyde and Parramatta sampling locations.

As no sampling point is located upstream of the Westmead construction site, all exceedances from sample location SW07 were reviewed under Steps 3 and 4.

Table 12 Samples where downstream values exceeded upstream values

Sampling Round	Parameter	Assessment Criteria	Upstream Point	Upstream Result	Downstream Point	Downstream Result
Aug-22	Copper	1.3 µg/L	SW01	<1.0 µg/L	SW02	2 µg/L
Jul-22	Phosphorus	0.03 mg/L	SW09	0.06 mg/L	SW02	0.2 mg/L
Dec-22	Manganese	80 µg/L	SW09	9 µg/L	SW02	260 µg/L
Jan-22	Phosphorus	0.03 mg/L	SW09	0.1 mg/L	SW02	0.3 mg/L
Jul-22	Turbidity (field)	0.5 – 10 NTU	SW08	9.4 NTU	SW03	22.1 NTU
Aug-22	Turbidity (field)	0.5 – 10 NTU	SW08	37 NTU	SW03	191 NTU
Jan-23	Copper	1.3 µg/L	SW08	1.0 µg/L	SW03	3.0 µg/L
Jan-23	Zinc	8 µg/L	SW08	<1.0 µg/L	SW03	12 µg/L
Nov-22	Turbidity (lab)	6.0 – 10.0 NTU	SW04	3.5 NTU	SW05	24 NTU
Dec-22	Turbidity (field)	6.0 – 10.0 NTU	SW04	11 NTU	SW05	140 NTU
Jan-23	Turbidity (lab)	6.0 – 10.0 NTU	SW04	4 NTU	SW05	19 NTU
Jan-23	Turbidity (field)	6.0 – 10.0 NTU	SW04	No Result	SW05	38.8 NTU
Aug-22	Zinc	8 µg/L	SW04	32 µg/L	SW06	100 µg/L
Nov-22	Manganese	1,900 µg/L / 80 µg/L	SW04	<5 µg/L	SW06	110 µg/L
Dec-22	Turbidity (field)	6.0 – 10.0 NTU	SW04	11 NTU	SW06	103 NTU

5.1.3 Step 3

'Where the exceedance of the preliminary trigger value occurs, a review will be initiated to determine the significance of the exceedance and the possible causes'

The exceedances of SW07 and the results listed in ***Table 12*** were subject to an in-depth review as outlined in the SWQMoP. The results of the review are as follows:

- No upward trends in analyte concentration were identifiable in the data set.

- All results are comparable to pre-construction baseline water quality monitoring with the exception of 3x parameters recorded at SW07, hexavalent chromium recorded in the July 2022 sampling round, visible oil and grease in the November 2022 sampling round and pH (field) recorded in the November sampling round.

Exceedance one - SW07 – July 2022

Hexavalent chromium recorded in the July 2022 was not replicated in subsequent sampling rounds. An assessment of probable causes was undertaken for this exceedance:

- Works conducted onsite included detailed site investigation and minor site establishment.
- No offsite discharge had occurred prior to this sampling round and there had been minimal disturbance of the site and erosion sediment controls had been established in accordance with the blue book.
- Review of the laboratory data identified that many other samples also had low level concentrations of hexavalent chrome present in their results.
- The catchment accepts water from a wide range of residential and commercial/industrial land. A small council worksite was located immediately upstream of the sampling point. It is unknown what works were occurring at this construction site. It is possible that elevated chrome was a result of an offsite source
- There was no rainfall in the preceding few days before the monitoring event.

The investigation indicated there was no clear link between construction activities and the elevated chrome. It was concluded that the concentrations seen in SW07 are likely due to cross contamination from the laboratory or due to an offsite source. Hexavalent chrome will continue to be monitored during the monthly surface water sampling regime.

Exceedance two - SW07 – November 2022

Visible oil and grease was noted as a field observation in the November 2022 sampling round. An assessment of probable causes was undertaken for this exceedance:

- The water appeared black in colour and possessed a sheen on the surface.
- The laboratory sample collected during the sampling round was tested for total recoverable hydrocarbons to determine if the oily sheen was related to petrol-chemicals. SW07 returned results below the adopted screening level for total recoverable hydrocarbons.
- There was no discharge from site prior to this sampling round
- The catchment accepts water from a wide range of residential and commercial/industrial land. A small council worksite was located immediately upstream of the sampling point. It is unknown what works were occurring at this construction site. It is possible that oily sheen was a result of an offsite source
- There was not any rainfall in the days preceding the monitoring event.

It was concluded that the oily sheen may be due to natural causes or an offsite source of grease from the surrounding stormwater network.

Exceedance three – SW07 – November 2022

pH was recorded below the acceptable range in the WQOs in the November 2022 sampling round. An assessment of probable causes was undertaken for this exceedance:

- In addition to the field pH reading, a sample was sent to the laboratory for analysis. The laboratory pH reading returned results within the acceptable range in the adopted assessment criteria indicating that the field result was not accurate.
- There was no discharge from site prior to this sampling round

- The catchment accepts water from a wide range of residential and commercial/industrial land. A small council worksite was located immediately upstream of the sampling point. It is unknown what works were occurring at this construction site. It is possible that oily sheen was a result of an offsite source
- There was not any rainfall in the days preceding the monitoring event.

It was concluded that it was likely that the pH reading collected in the field was not as accurate as the level provided by the laboratory and was therefore a false reading. The laboratory reading was within range indicating that there was no degradation of the waterway resulting from GLC activities.

5.1.4 Step 4

'If the exceedance is determined to be attributable to Project works, the event will be treated as an environmental incident and managed in accordance with the requirements of Section 3.10 of the CEMP'.

The in-depth review undertaken in Steps 1 – 3 concluded that none of the exceedances were attributed to GLC construction works. As such, notification of an environmental incident is not required under Section 3.10 of the CEMP.

5.2 Recommendations

Based on the results and findings of the surface water monitoring, it is recommended that monitoring continues to be undertaken in accordance with the SWMP. Due to the lack of an upstream surface water sampling point present at the Westmead Construction Site, it is recommended that the SWMP be updated to include an upstream sampling point.

Following confirmation of the discharge point for the Parramatta construction water treatment plant, the suitability of the location of the Parramatta River sampling points (SW04, SW05 and SW06) will be considered further.

6 CONCLUSION

Results obtained from this monitoring period indicate that there has not been a degradation of the surrounding surface water network as a result of construction activities. Results are generally consistent with the adopted assessment criteria and pre-construction baseline water quality data.

ATTACHMENTS

Attachment 1 – Laboratory Certificates

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CERTIFICATE OF ANALYSIS 295817

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	David W
Address	Suite 4.01, 55 Miller St, Pyrmont, NSW, 2009

Sample Details

Your Reference	**SC210108.01, WTP Surface water Monitoring**
Number of Samples	8 Water
Date samples received	18/05/2022
Date completed instructions received	18/05/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	25/05/2022
Date of Issue	25/05/2022

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Results Approved By
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Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/05/2022	19/05/2022	19/05/2022	19/05/2022	19/05/2022
Date analysed	-	23/05/2022	23/05/2022	23/05/2022	23/05/2022	23/05/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	96	95	94	96	96
Surrogate toluene-d8	%	100	101	100	101	102
Surrogate 4-BFB	%	101	102	101	100	102

vTRH(C6-C10)/BTEXN in Water				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date extracted	-	19/05/2022	19/05/2022	19/05/2022
Date analysed	-	23/05/2022	23/05/2022	23/05/2022
TRH C_6 - C_9	µg/L	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10
Benzene	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
o-xylene	µg/L	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	97	96
Surrogate toluene-d8	%	103	101	100
Surrogate 4-BFB	%	103	99	102

svTRH (C10-C40) in Water						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	77	89	82	83	88

svTRH (C10-C40) in Water				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date extracted	-	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50
Surrogate o-Terphenyl	%	81	87	75

PAHs in Water						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	87	102	100	96	104

PAHs in Water				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date extracted	-	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	101	90

All metals in water - total						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Arsenic-Total	µg/L	1	1	2	1	2
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	0.3
Chromium-Total	µg/L	<1	<1	3	1	1
Copper-Total	µg/L	2	2	3	4	4
Iron-Total	µg/L	360	290	580	1,100	920
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	260	140	70	120	110
Nickel-Total	µg/L	<1	<1	<1	<1	1
Lead-Total	µg/L	<1	<1	3	3	3
Zinc-Total	µg/L	27	25	24	22	36

All metals in water - total				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date prepared	-	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022
Arsenic-Total	µg/L	1	1	2
Cadmium-Total	µg/L	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	<1	<1
Copper-Total	µg/L	2	2	3
Iron-Total	µg/L	540	580	650
Mercury-Total	µg/L	<0.05	<0.05	<0.05
Manganese-Total	µg/L	85	110	100
Nickel-Total	µg/L	<1	<1	<1
Lead-Total	µg/L	1	<1	5
Zinc-Total	µg/L	12	15	33

All metals in water-dissolved						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	23/05/2022	23/05/2022	23/05/2022	23/05/2022	23/05/2022
Date analysed	-	23/05/2022	23/05/2022	23/05/2022	23/05/2022	23/05/2022
Arsenic-Dissolved	µg/L	2	2	2	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	1	<1	2	3
Iron-Dissolved	µg/L	110	70	20	540	480
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	270	140	67	89	77
Nickel-Dissolved	µg/L	1	<1	<1	1	<1
Lead-Dissolved	µg/L	<1	<1	<1	1	<1
Zinc-Dissolved	µg/L	16	18	12	10	9

All metals in water-dissolved				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date prepared	-	23/05/2022	23/05/2022	23/05/2022
Date analysed	-	23/05/2022	23/05/2022	23/05/2022
Arsenic-Dissolved	µg/L	1	1	2
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	1	2	2
Iron-Dissolved	µg/L	110	150	180
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	81	110	110
Nickel-Dissolved	µg/L	<1	<1	1
Lead-Dissolved	µg/L	<1	<1	1
Zinc-Dissolved	µg/L	8	9	26

Miscellaneous Inorganics						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	18/05/2022	18/05/2022	18/05/2022	18/05/2022	18/05/2022
Date analysed	-	18/05/2022	18/05/2022	18/05/2022	18/05/2022	18/05/2022
Turbidity	NTU	3.0	3.0	5.7	8.6	16
Electrical Conductivity	µS/cm	4,700	12,000	26,000	430	440
Salinity as NaCl *	mg/L	3,000	7,700	17,000	280	280
pH	pH Units	7.3	7.2	7.2	7.9	7.8
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	1.5	1.0	0.8	1.0	1
TKN in water	mg/L	1.2	0.6	0.5	0.3	0.3
Nitrate as N in water	mg/L	0.21	0.40	0.22	0.66	0.65
Nitrite as N in water	mg/L	0.049	0.055	0.023	0.028	0.026
Ammonia as N in water	mg/L	0.68	0.38	0.25	0.19	0.17
Phosphate as P in water	mg/L	0.098	0.083	0.060	0.03	0.03

Miscellaneous Inorganics				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date prepared	-	18/05/2022	18/05/2022	18/05/2022
Date analysed	-	18/05/2022	18/05/2022	18/05/2022
Turbidity	NTU	5.4	3.4	7.4
Electrical Conductivity	µS/cm	15,000	820	9,800
Salinity as NaCl *	mg/L	9,900	530	6,300
pH	pH Units	7.3	7.8	7.2
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	0.8	0.7	0.9
TKN in water	mg/L	0.4	0.3	0.5
Nitrate as N in water	mg/L	0.37	0.35	0.45
Nitrite as N in water	mg/L	0.023	0.020	0.033
Ammonia as N in water	mg/L	0.29	0.12	0.25
Phosphate as P in water	mg/L	0.05	0.04	0.03

Metals in Waters - Acid extractable						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022	20/05/2022	20/05/2022
Phosphorus - Total	mg/L	0.2	0.1	0.1	0.08	0.08

Metals in Waters - Acid extractable				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date prepared	-	20/05/2022	20/05/2022	20/05/2022
Date analysed	-	20/05/2022	20/05/2022	20/05/2022
Phosphorus - Total	mg/L	0.09	0.1	0.09

PFAS in Waters Short						
Our Reference		295817-1	295817-2	295817-3	295817-4	295817-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/05/2022	17/05/2022	17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/05/2022	19/05/2022	19/05/2022	19/05/2022	19/05/2022
Date analysed	-	19/05/2022	19/05/2022	19/05/2022	19/05/2022	19/05/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	0.02	0.02	0.02	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	0.11	0.07	0.03	0.03	0.04
Perfluorooctanoic acid PFOA	µg/L	0.02	0.02	<0.01	0.01	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	99	107	97	90	95
Surrogate $^{13}C_2$ *PFOA*	%	100	100	101	100	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	95	95	92	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	100	102	106	105
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	94	87	94	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	86	71	61	104	113
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	97	87	77	114	116
Total Positive PFHxS & PFOS	µg/L	0.14	0.1	0.04	0.05	0.06
Total Positive PFOA & PFOS	µg/L	0.13	0.09	0.03	0.05	0.06
Total Positive PFAS	µg/L	0.16	0.11	0.04	0.07	0.08

PFAS in Waters Short				
Our Reference		295817-6	295817-7	295817-8
Your Reference	UNITS	SW06	SW07	SW08
Date Sampled		17/05/2022	17/05/2022	17/05/2022
Type of sample		Water	Water	Water
Date prepared	-	19/05/2022	19/05/2022	19/05/2022
Date analysed	-	19/05/2022	19/05/2022	19/05/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	0.02	0.03
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.03	0.07
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.02	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	97	100	96
Surrogate $^{13}C_2$ *PFOA*	%	103	100	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%	97	95	96
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	102	106
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	96	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	60	106	70
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	75	122	84
Total Positive PFHxS & PFOS	µg/L	0.03	0.05	0.1
Total Positive PFOA & PFOS	µg/L	0.02	0.05	0.08
Total Positive PFAS	µg/L	0.03	0.06	0.11

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			19/05/2022	1	19/05/2022	23/05/2022		19/05/2022	[NT]
Date analysed	-			23/05/2022	1	23/05/2022	24/05/2022		23/05/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	102	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	102	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	104	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	101	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	1	96	95	1	100	[NT]
Surrogate toluene-d8	%		Org-023	100	1	100	100	0	103	[NT]
Surrogate 4-BFB	%		Org-023	100	1	101	105	4	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	295817-2
Date extracted	-			20/05/2022	1	20/05/2022	20/05/2022		20/05/2022	20/05/2022
Date analysed	-			20/05/2022	1	20/05/2022	20/05/2022		20/05/2022	20/05/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	79	92
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	81	98
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	109	129
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	79	92
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	81	98
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	109	129
Surrogate o-Terphenyl	%		Org-020	75	1	77	85	10	71	107

QUALITY CONTROL: PAHs in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	295817-3
Date extracted	-			20/05/2022	[NT]	[NT]	[NT]	[NT]	20/05/2022	20/05/2022
Date analysed	-			20/05/2022	[NT]	[NT]	[NT]	[NT]	20/05/2022	20/05/2022
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	90	90
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	89	85
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	95	92
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	104	100
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	92	90
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	99	97
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	99	93
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	114	104
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	86	[NT]	[NT]	[NT]	[NT]	100	90

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	295817-4
Date prepared	-			20/05/2022	1	20/05/2022	20/05/2022		20/05/2022	20/05/2022
Date analysed	-			20/05/2022	1	20/05/2022	20/05/2022		20/05/2022	20/05/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	96	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	97	[NT]
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Copper-Total	µg/L	1	Metals-022	<1	1	2	2	0	98	[NT]
Iron-Total	µg/L	10	Metals-022	<10	1	360	390	8	101	[NT]
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	[NT]		115	105
Manganese-Total	µg/L	5	Metals-022	<5	1	260	250	4	98	[NT]
Nickel-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	100	[NT]
Lead-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Zinc-Total	µg/L	1	Metals-022	<1	1	27	26	4	87	[NT]

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	3	20/05/2022	20/05/2022		[NT]	[NT]
Date analysed	-			[NT]	3	20/05/2022	20/05/2022		[NT]	[NT]
Arsenic-Total	µg/L	1	Metals-022	[NT]	3	2	[NT]		[NT]	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	[NT]	3	<0.1	[NT]		[NT]	[NT]
Chromium-Total	µg/L	1	Metals-022	[NT]	3	3	[NT]		[NT]	[NT]
Copper-Total	µg/L	1	Metals-022	[NT]	3	3	[NT]		[NT]	[NT]
Iron-Total	µg/L	10	Metals-022	[NT]	3	580	[NT]		[NT]	[NT]
Mercury-Total	µg/L	0.05	Metals-021	[NT]	3	<0.05	<0.05	0	[NT]	[NT]
Manganese-Total	µg/L	5	Metals-022	[NT]	3	70	[NT]		[NT]	[NT]
Nickel-Total	µg/L	1	Metals-022	[NT]	3	<1	[NT]		[NT]	[NT]
Lead-Total	µg/L	1	Metals-022	[NT]	3	3	[NT]		[NT]	[NT]
Zinc-Total	µg/L	1	Metals-022	[NT]	3	24	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	295817-2
Date prepared	-			23/05/2022	1	23/05/2022	23/05/2022		23/05/2022	23/05/2022
Date analysed	-			23/05/2022	1	23/05/2022	23/05/2022		23/05/2022	23/05/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	98	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	99	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	97	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	98	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	110	110	0	96	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	113	106
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	270	270	0	96	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	<1	0	97	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	16	15	6	89	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	295817-2
Date prepared	-			18/05/2022	1	18/05/2022	18/05/2022		18/05/2022	18/05/2022
Date analysed	-			18/05/2022	1	18/05/2022	18/05/2022		18/05/2022	18/05/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	3.0	2.9	3	95	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	4700	4700	0	93	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	3000	3000	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.3	7.4	1	99	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	112	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.5	1.4	7	101	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	1	1.2	1.1	9	104	107
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.21	0.21	0	104	107
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.049	0.049	0	92	104
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.68	0.67	1	109	95
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.098	0.10	2	116	89

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	295817-4
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	18/05/2022
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	18/05/2022
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	91

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	295817-2
Date prepared	-			20/05/2022	1	20/05/2022	20/05/2022		20/05/2022	20/05/2022
Date analysed	-			20/05/2022	1	20/05/2022	20/05/2022		20/05/2022	20/05/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.2	0.2	0	92	99

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	295817-2
Date prepared	-			19/05/2022	1	19/05/2022	19/05/2022		19/05/2022	19/05/2022
Date analysed	-			19/05/2022	1	19/05/2022	19/05/2022		19/05/2022	19/05/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.03	0.03	0	103	106
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.11	0.11	0	103	111
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	104	112
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	109	120
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	101	94
Surrogate $^{13}C_8$ PFOS	%		Org-029	100	1	99	99	0	95	102
Surrogate $^{13}C_2$ PFOA	%		Org-029	99	1	100	99	1	98	102
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	98	1	95	92	3	96	94
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	106	1	101	105	4	107	100
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	100	1	90	92	2	99	88
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	125	1	86	90	5	116	65
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	135	1	97	106	9	125	92

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

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CERTIFICATE OF ANALYSIS 296605

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	David W
Address	Suite 4.01, 55 Miller St, Pyrmont, NSW, 2009

Sample Details

Your Reference	**SC210108.01, WTP Surface water Monitoring**
Number of Samples	9 Water
Date samples received	30/05/2022
Date completed instructions received	30/05/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/06/2022
Date of Issue	03/06/2022

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Results Approved By
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Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	01/06/2022	01/06/2022	01/06/2022	01/06/2022	01/06/2022
Date analysed	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	96	95	96	94	98
Surrogate toluene-d8	%	97	97	97	98	97
Surrogate 4-BFB	%	97	92	95	94	94

vTRH(C6-C10)/BTEXN in Water					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	01/06/2022	01/06/2022	01/06/2022	01/06/2022
Date analysed	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	95	96	99	95
Surrogate toluene-d8	%	96	97	97	97
Surrogate 4-BFB	%	93	94	95	96

svTRH (C10-C40) in Water						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	01/06/2022	01/06/2022	01/06/2022	01/06/2022	01/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	87	80	77	80	81

svTRH (C10-C40) in Water					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	01/06/2022	01/06/2022	01/06/2022	01/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	76	88	91	90

PAHs in Water						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	87	80	78	93	92

PAHs in Water					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	101	98	99	97

All metals in water - total						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	02/06/2022	02/06/2022	02/06/2022	02/06/2022	02/06/2022
Arsenic-Total	µg/L	1	1	2	<1	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	<1	1	1	<1
Copper-Total	µg/L	3	3	3	5	3
Iron-Total	µg/L	330	290	580	600	760
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	32	48	64	49	54
Nickel-Total	µg/L	2	1	1	2	<1
Lead-Total	µg/L	<1	<1	4	2	2
Zinc-Total	µg/L	25	27	33	22	17

All metals in water - total					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	02/06/2022	02/06/2022	02/06/2022	02/06/2022
Arsenic-Total	µg/L	1	1	3	1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	2	<1	1	<1
Copper-Total	µg/L	1	1	4	2
Iron-Total	µg/L	500	560	930	200
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	62	100	70	100
Nickel-Total	µg/L	<1	1	2	2
Lead-Total	µg/L	1	<1	8	<1
Zinc-Total	µg/L	11	11	40	20

All metals in water-dissolved						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Arsenic-Dissolved	µg/L	1	1	2	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	2	2	3	2
Iron-Dissolved	µg/L	80	100	80	310	310
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	30	47	61	35	34
Nickel-Dissolved	µg/L	2	2	1	1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	14	20	24	9	7

All metals in water-dissolved					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Arsenic-Dissolved	µg/L	1	1	2	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	1	2	2
Iron-Dissolved	µg/L	70	200	260	60
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	56	100	64	100
Nickel-Dissolved	µg/L	1	1	1	2
Lead-Dissolved	µg/L	<1	<1	2	<1
Zinc-Dissolved	µg/L	7	9	28	16

Miscellaneous Inorganics						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Turbidity	NTU	5.6	3.3	15	15	13
Electrical Conductivity	µS/cm	1,500	5,500	12,000	410	410
Salinity as NaCl *	mg/L	940	3,500	7,600	260	260
pH	pH Units	7.9	7.6	7.5	7.9	7.8
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	1.3	1.3	1	1.0	0.9
TKN in water	mg/L	0.6	0.7	0.5	0.4	0.4
Nitrate as N in water	mg/L	0.57	0.50	0.39	0.63	0.47
Nitrite as N in water	mg/L	0.051	0.047	0.025	0.023	0.018
Ammonia as N in water	mg/L	0.16	0.090	0.13	0.058	0.085
Phosphate as P in water	mg/L	0.092	0.053	0.03	0.02	0.02

Miscellaneous Inorganics					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Turbidity	NTU	4.9	3.7	19	2.1
Electrical Conductivity	µS/cm	23,000	800	12,000	1,600
Salinity as NaCl *	mg/L	15,000	520	7,600	1,000
pH	pH Units	7.4	8.0	7.4	8.1
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	0.7	0.8	1.0	1.3
TKN in water	mg/L	0.5	0.4	0.6	0.5
Nitrate as N in water	mg/L	0.21	0.33	0.39	0.77
Nitrite as N in water	mg/L	0.020	0.022	0.021	0.051
Ammonia as N in water	mg/L	0.27	0.034	0.17	0.039
Phosphate as P in water	mg/L	0.04	0.03	0.03	0.03

Metals in Waters - Acid extractable						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Phosphorus - Total	mg/L	0.1	0.08	0.09	<0.05	0.07

Metals in Waters - Acid extractable					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Date analysed	-	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Phosphorus - Total	mg/L	0.07	0.09	0.09	0.05

PFAS in Waters Short						
Our Reference		296605-1	296605-2	296605-3	296605-4	296605-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	30/05/2022	30/05/2022	30/05/2022	30/05/2022	30/05/2022
Date analysed	-	30/05/2022	30/05/2022	30/05/2022	30/05/2022	30/05/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	0.02	0.02	0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.13	0.08	0.05	0.02	0.03
Perfluorooctanoic acid PFOA	µg/L	0.02	0.01	0.02	0.01	0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	98	102	105	100	102
Surrogate $^{13}C_2$ *PFOA*	%	106	114	107	107	111
Extracted ISTD $^{18}O_2$ *PFHxS*	%	111	115	122	113	116
Extracted ISTD $^{13}C_4$ *PFOS*	%	106	100	99	103	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	106	88	78	99	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	146	101	74	115	129
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	126	96	70	115	134
Total Positive PFHxS & PFOS	µg/L	0.15	0.1	0.07	0.04	0.03
Total Positive PFOA & PFOS	µg/L	0.14	0.09	0.07	0.04	0.04
Total Positive PFAS	µg/L	0.17	0.11	0.09	0.05	0.04

PFAS in Waters Short					
Our Reference		296605-6	296605-7	296605-8	296605-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		27/05/2022	27/05/2022	27/05/2022	27/05/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	30/05/2022	30/05/2022	30/05/2022	30/05/2022
Date analysed	-	30/05/2022	30/05/2022	30/05/2022	30/05/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	0.01	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.02	0.04	0.04
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	98	97	104	102
Surrogate $^{13}C_2$ *PFOA*	%	106	112	105	111
Extracted ISTD $^{18}O_2$ *PFHxS*	%	110	114	115	116
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	103	100	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	70	86	77	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	54	93	68	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	58	100	74	105
Total Positive PFHxS & PFOS	µg/L	0.02	0.04	0.05	0.07
Total Positive PFOA & PFOS	µg/L	0.02	0.04	0.04	0.06
Total Positive PFAS	µg/L	0.02	0.05	0.05	0.08

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date extracted	-			01/06/2022	1	01/06/2022	02/06/2022		01/06/2022	[NT]
Date analysed	-			03/06/2022	1	03/06/2022	03/06/2022		03/06/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	100	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	100	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	101	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	96	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	100	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	102	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	95	1	96	93	3	101	[NT]
Surrogate toluene-d8	%		Org-023	98	1	97	97	0	99	[NT]
Surrogate 4-BFB	%		Org-023	93	1	97	94	3	96	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	[NT]
Date analysed	-			01/06/2022	1	01/06/2022	01/06/2022		01/06/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	88	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	79	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	94	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	88	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	79	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	94	[NT]
Surrogate o-Terphenyl	%		Org-020	81	1	87	81	7	75	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	[NT]
Date analysed	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	75	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	86	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	83	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	77	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	86	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	75	1	87	80	8	76	[NT]

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	296605-2
Date prepared	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	31/05/2022
Date analysed	-			02/06/2022	1	02/06/2022	02/06/2022		31/05/2022	31/05/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	[NT]	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	[NT]	[NT]
Copper-Total	µg/L	1	Metals-022	<1	1	3	3	0	[NT]	[NT]
Iron-Total	µg/L	10	Metals-022	<10	1	330	370	11	[NT]	[NT]
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	112	111
Manganese-Total	µg/L	5	Metals-022	<5	1	32	32	0	[NT]	[NT]
Nickel-Total	µg/L	1	Metals-022	<1	1	2	2	0	[NT]	[NT]
Lead-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	[NT]	[NT]
Zinc-Total	µg/L	1	Metals-022	<1	1	25	26	4	[NT]	[NT]

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	296605-3
Date prepared	-			[NT]	9	31/05/2022	31/05/2022		31/05/2022	31/05/2022
Date analysed	-			[NT]	9	02/06/2022	02/06/2022		02/06/2022	02/06/2022
Arsenic-Total	µg/L	1	Metals-022	[NT]	9	1	[NT]		101	104
Cadmium-Total	µg/L	0.1	Metals-022	[NT]	9	<0.1	[NT]		101	107
Chromium-Total	µg/L	1	Metals-022	[NT]	9	<1	[NT]		102	102
Copper-Total	µg/L	1	Metals-022	[NT]	9	2	[NT]		92	84
Iron-Total	µg/L	10	Metals-022	[NT]	9	200	[NT]		101	#
Mercury-Total	µg/L	0.05	Metals-021	[NT]	9	<0.05	<0.05	0	[NT]	[NT]
Manganese-Total	µg/L	5	Metals-022	[NT]	9	100	[NT]		104	102
Nickel-Total	µg/L	1	Metals-022	[NT]	9	2	[NT]		103	101
Lead-Total	µg/L	1	Metals-022	[NT]	9	<1	[NT]		100	94
Zinc-Total	µg/L	1	Metals-022	[NT]	9	20	[NT]		104	102

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	296605-2
Date prepared	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	31/05/2022
Date analysed	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	31/05/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	1	2	67	101	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	102	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	92	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	80	90	12	98	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	116	111
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	30	30	0	109	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	98	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	14	17	19	102	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	296605-5
Date prepared	-			27/05/2022	1	31/05/2022	31/05/2022		27/05/2022	27/05/2022
Date analysed	-			27/05/2022	1	31/05/2022	31/05/2022		27/05/2022	27/05/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	5.6	5.8	4	91	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1500	1500	0	108	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	940	940	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.9	7.8	1	100	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	117	109
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.3	1.3	0	112	123
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.6	[NT]		112	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.57	[NT]		98	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.051	[NT]		90	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.16	[NT]		102	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.092	[NT]		106	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	5	31/05/2022	27/05/2022		[NT]	[NT]
Date analysed	-			[NT]	5	31/05/2022	27/05/2022		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	5	13	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	5	410	[NT]		[NT]	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	[NT]	5	260	[NT]		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	5	7.8	[NT]		[NT]	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	[NT]	5	<0.001	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	5	0.9	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	5	0.4	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.47	0.47	0	[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.018	0.019	5	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	5	0.085	0.098	14	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	5	0.02	0.01	67	[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	296605-2
Date prepared	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	31/05/2022
Date analysed	-			31/05/2022	1	31/05/2022	31/05/2022		31/05/2022	31/05/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.1	0.1	0	96	105

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	296605-2
Date prepared	-			30/05/2022	1	30/05/2022	30/05/2022		30/05/2022	30/05/2022
Date analysed	-			30/05/2022	1	30/05/2022	30/05/2022		30/05/2022	30/05/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.03	0.03	0	94	102
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.13	0.13	0	103	107
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.02	0.01	67	105	109
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	109
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	113
Surrogate $^{13}C_8$ PFOS	%		Org-029	102	1	98	102	4	101	102
Surrogate $^{13}C_2$ PFOA	%		Org-029	98	1	106	104	2	103	112
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	109	1	111	111	0	116	109
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	101	1	106	104	2	97	100
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	109	1	106	108	2	106	81
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	126	1	146	135	8	138	84
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	121	1	126	141	11	141	95

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 297165

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	David W
Address	Suite 4.01, 55 Miller St, Pyrmont, NSW, 2009

Sample Details

Your Reference	**SC210108.01, WTP Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	03/06/2022
Date completed instructions received	03/06/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	06/06/2022
Date of Issue	06/06/2022

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Results Approved By

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Diego Bigolin, Inorganics Supervisor
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Giovanni Agosti, Group Technical Manager
Hannah Nguyen, Metals Supervisor
Josh Williams, Organics and LC Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	95	96	96	96	94
Surrogate toluene-d8	%	97	98	98	98	96
Surrogate 4-BFB	%	95	96	94	94	97

vTRH(C6-C10)/BTEXN in Water					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	95	95	96	95
Surrogate toluene-d8	%	98	98	98	97
Surrogate 4-BFB	%	94	96	94	93

svTRH (C10-C40) in Water						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	90	81	94	73	83

svTRH (C10-C40) in Water					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	85	83	80	75

PAHs in Water						
Our Reference	UNITS	297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference		SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	134	127	131	95	110

PAHs in Water					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	130	133	131	85

All metals in water - total						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Arsenic-Total	µg/L	1	1	1	<1	<1
Cadmium-Total	µg/L	<0.1	<0.1	0.2	0.2	<0.1
Chromium-Total	µg/L	<1	<1	<1	<1	<1
Copper-Total	µg/L	2	2	2	3	3
Iron-Total	µg/L	870	320	250	410	620
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	330	230	90	39	73
Nickel-Total	µg/L	2	1	1	2	1
Lead-Total	µg/L	1	<1	2	1	1
Zinc-Total	µg/L	60	38	36	36	17
Aluminium-Total	µg/L	210	50	60	250	230

All metals in water - total					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Arsenic-Total	µg/L	<1	<1	1	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	<1	<1	<1
Copper-Total	µg/L	1	1	2	6
Iron-Total	µg/L	230	600	260	730
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	48	66	78	72
Nickel-Total	µg/L	1	1	1	2
Lead-Total	µg/L	<1	<1	1	2
Zinc-Total	µg/L	13	10	32	49
Aluminium-Total	µg/L	80	40	60	280

All metals in water-dissolved						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Arsenic-Dissolved	µg/L	1	<1	1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	2	2
Iron-Dissolved	µg/L	530	90	30	200	190
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	350	230	82	26	54
Nickel-Dissolved	µg/L	1	1	1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	35	28	30	8	8
Aluminium-Dissolved	µg/L	<10	<10	<10	50	20

All metals in water-dissolved					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Arsenic-Dissolved	µg/L	<1	<1	1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	1	<1	1	2
Iron-Dissolved	µg/L	40	240	20	20
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	45	61	74	62
Nickel-Dissolved	µg/L	<1	<1	1	2
Lead-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	9	7	26	18
Aluminium-Dissolved	µg/L	20	<10	<10	<10

Miscellaneous Inorganics						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Date analysed	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Turbidity	NTU	5.4	1.6	2.4	7.8	3.6
Electrical Conductivity	µS/cm	18,000	21,000	26,000	880	880
Salinity as NaCl *	mg/L	12,000	13,000	16,000	560	560
pH	pH Units	7.0	7.3	7.3	8.0	7.9
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	1.5	1	0.7	3.6	3.5
TKN in water	mg/L	1.4	0.8	0.5	3.0	2.9
Nitrate as N in water	mg/L	0.02	0.16	0.19	0.54	0.54
Nitrite as N in water	mg/L	0.044	0.041	0.026	0.054	0.053
Ammonia as N in water	mg/L	0.73	0.37	0.24	0.51	0.51
Phosphate as P in water	mg/L	0.11	0.059	0.04	0.03	0.02

Miscellaneous Inorganics					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Date analysed	-	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Turbidity	NTU	2.2	4.3	3.0	3.5
Electrical Conductivity	µS/cm	25,000	840	25,000	2,900
Salinity as NaCl *	mg/L	16,000	540	16,000	1,800
pH	pH Units	7.5	7.9	7.2	8.1
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	<0.001	<0.001	0.001
Total Nitrogen in water	mg/L	1.2	0.7	0.8	2.0
TKN in water	mg/L	1	0.4	0.6	0.7
Nitrate as N in water	mg/L	0.19	0.26	0.23	1.2
Nitrite as N in water	mg/L	0.025	0.015	0.024	0.068
Ammonia as N in water	mg/L	0.25	0.057	0.22	0.17
Phosphate as P in water	mg/L	0.04	0.04	0.04	0.03

Metals in Waters - Acid extractable						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Phosphorus - Total	mg/L	0.3	0.1	0.07	<0.05	0.06

Metals in Waters - Acid extractable					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Phosphorus - Total	mg/L	0.08	0.09	0.09	0.09

PFAS in Waters Short						
Our Reference		297165-1	297165-2	297165-3	297165-4	297165-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.02	0.02	0.02	0.02	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	0.07	0.04	0.03	0.03	0.03
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01	0.01	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	113	101	99	92	93
Surrogate $^{13}C_2$ *PFOA*	%	101	100	100	103	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	94	97	91	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	89	96	100	102	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	89	87	90	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	63	58	56	93	107
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	71	79	80	112	112
Total Positive PFHxS & PFOS	µg/L	0.09	0.05	0.04	0.04	0.05
Total Positive PFOA & PFOS	µg/L	0.07	0.05	0.03	0.04	0.04
Total Positive PFAS	µg/L	0.09	0.06	0.04	0.06	0.06

PFAS in Waters Short					
Our Reference		297165-6	297165-7	297165-8	297165-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		03/06/2022	03/06/2022	03/06/2022	03/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Date analysed	-	06/06/2022	06/06/2022	06/06/2022	06/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	0.01	0.02	0.04
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.02	0.04	0.08
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	0.01	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	106	98	102	98
Surrogate $^{13}C_2$ *PFOA*	%	101	99	96	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	98	91	97
Extracted ISTD $^{13}C_4$ *PFOS*	%	94	97	92	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	86	95	87	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	55	99	57	90
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	76	110	61	110
Total Positive PFHxS & PFOS	µg/L	0.02	0.03	0.06	0.12
Total Positive PFOA & PFOS	µg/L	0.01	0.03	0.05	0.1
Total Positive PFAS	µg/L	0.02	0.04	0.07	0.14

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			03/06/2022	1	03/06/2022	06/06/2022		03/06/2022	[NT]
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	96	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	96	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	96	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	96	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	95	1	95	82	15	101	[NT]
Surrogate toluene-d8	%		Org-023	98	1	97	97	0	100	[NT]
Surrogate 4-BFB	%		Org-023	92	1	95	99	4	94	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297165-2
Date extracted	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	91	99
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	76	88
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	94	104
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	91	99
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	76	88
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	94	104
Surrogate o-Terphenyl	%		Org-020	93	1	90	92	2	92	101

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297165-3
Date extracted	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	109	118
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	105	121
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	103	116
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	120	118
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	96	110
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	105	121
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	99	113
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	118	128
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	127	1	134	130	3	121	134

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297165-3
Date prepared	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	97	103
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	96	98
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	94	92
Copper-Total	µg/L	1	Metals-022	<1	1	2	2	0	95	87
Iron-Total	µg/L	10	Metals-022	<10	1	870	710	20	98	#
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	[NT]		119	[NT]
Manganese-Total	µg/L	5	Metals-022	<5	1	330	340	3	97	84
Nickel-Total	µg/L	1	Metals-022	<1	1	2	2	0	97	89
Lead-Total	µg/L	1	Metals-022	<1	1	1	1	0	97	90
Zinc-Total	µg/L	1	Metals-022	<1	1	60	56	7	98	91
Aluminium-Total	µg/L	10	Metals-022	<10	1	210	200	5	94	121

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	297165-5
Date prepared	-			[NT]	4	06/06/2022	06/06/2022		[NT]	06/06/2022
Date analysed	-			[NT]	4	06/06/2022	06/06/2022		[NT]	06/06/2022
Arsenic-Total	µg/L	1	Metals-022	[NT]	4	<1	[NT]		[NT]	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	[NT]	4	0.2	[NT]		[NT]	[NT]
Chromium-Total	µg/L	1	Metals-022	[NT]	4	<1	[NT]		[NT]	[NT]
Copper-Total	µg/L	1	Metals-022	[NT]	4	3	[NT]		[NT]	[NT]
Iron-Total	µg/L	10	Metals-022	[NT]	4	410	[NT]		[NT]	[NT]
Mercury-Total	µg/L	0.05	Metals-021	[NT]	4	<0.05	<0.05	0	[NT]	120
Manganese-Total	µg/L	5	Metals-022	[NT]	4	39	[NT]		[NT]	[NT]
Nickel-Total	µg/L	1	Metals-022	[NT]	4	2	[NT]		[NT]	[NT]
Lead-Total	µg/L	1	Metals-022	[NT]	4	1	[NT]		[NT]	[NT]
Zinc-Total	µg/L	1	Metals-022	[NT]	4	36	[NT]		[NT]	[NT]
Aluminium-Total	µg/L	10	Metals-022	[NT]	4	250	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W10	297165-2
Date prepared	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	101	100
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	100	100
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	96	91
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	86
Iron-Dissolved	µg/L	10	Metals-022	<10	1	530	510	4	99	87
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	118	114
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	350	330	6	98	#
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	99	90
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	89
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	35	33	6	105	93
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	99	107

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297165-2
Date prepared	-			03/06/2022	1	03/06/2022	03/06/2022		03/06/2022	03/06/2022
Date analysed	-			03/06/2022	1	03/06/2022	03/06/2022		03/06/2022	03/06/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	5.4	5.8	7	92	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	18000	18000	0	100	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	12000	12000	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.0	7.1	1	99	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	117	108
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.5	1.5	0	98	121
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	1.4	1.4	0	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	<0.005	120	86	76
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.044	0.044	0	91	95
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.73	0.74	1	89	89
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.11	0.11	0	92	92

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297165-2
Date prepared	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	06/06/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.3	0.3	0	105	111

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	[NT]
Date analysed	-			06/06/2022	1	06/06/2022	06/06/2022		06/06/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	108	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.07	0.06	15	111	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	0.01	0	103	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	115	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	96	1	113	106	6	103	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	100	1	101	101	0	98	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	90	1	95	93	2	89	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	97	1	89	92	3	93	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	96	1	90	88	2	95	[NT]
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	109	1	63	59	7	108	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	109	1	71	74	4	110	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 297794

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Kellie Hunt
Address	Suite 4.01, 55 Miller St, Pyrmont, NSW, 2009

Sample Details

Your Reference	**SC210108.01, WTP Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	10/06/2022
Date completed instructions received	10/06/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	14/06/2022
Date of Issue	14/06/2022

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Results Approved By
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Jenny He, Senior Chemist
Josh Williams, Organics and LC Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	119	122	121	120	118
Surrogate toluene-d8	%	99	100	100	98	98
Surrogate 4-BFB	%	99	101	103	98	98

vTRH(C6-C10)/BTEXN in Water					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	121	120	120	119
Surrogate toluene-d8	%	99	100	99	99
Surrogate 4-BFB	%	100	97	100	100

svTRH (C10-C40) in Water						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	95	101	86	98	98

svTRH (C10-C40) in Water					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	101	86	95	99

PAHs in Water						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	97	81	90	89

PAHs in Water					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	93	99	104

All metals in water - total						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Arsenic-Total	µg/L	1	1	2	<1	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	<1	1	<1	<1
Copper-Total	µg/L	3	2	2	4	4
Iron-Total	µg/L	470	180	180	670	650
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	130	69	43	76	70
Nickel-Total	µg/L	1	1	<1	1	1
Lead-Total	µg/L	<1	<1	<1	1	3
Zinc-Total	µg/L	30	23	19	16	18
Aluminium-Total	µg/L	60	40	60	240	290

All metals in water - total					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Arsenic-Total	µg/L	2	<1	2	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	2	<1	<1	<1
Copper-Total	µg/L	3	1	1	3
Iron-Total	µg/L	710	480	310	330
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	45	54	67	75
Nickel-Total	µg/L	1	<1	<1	2
Lead-Total	µg/L	2	<1	2	<1
Zinc-Total	µg/L	23	7	24	25
Aluminium-Total	µg/L	250	30	60	40

All metals in water-dissolved						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Arsenic-Dissolved	μg/L	1	1	1	<1	<1
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	1	1	1	<1	<1
Copper-Dissolved	μg/L	2	1	1	3	3
Iron-Dissolved	μg/L	80	50	<10	210	190
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	μg/L	120	67	40	59	52
Nickel-Dissolved	μg/L	<1	<1	<1	<1	<1
Lead-Dissolved	μg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	μg/L	8	11	9	7	3
Aluminium-Dissolved	μg/L	10	<10	<10	70	40

All metals in water-dissolved					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Arsenic-Dissolved	μg/L	1	<1	1	<1
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	<1	<1	<1	<1
Copper-Dissolved	μg/L	<1	1	1	3
Iron-Dissolved	μg/L	<10	150	50	20
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	μg/L	36	48	70	76
Nickel-Dissolved	μg/L	<1	<1	<1	<1
Lead-Dissolved	μg/L	<1	<1	<1	<1
Zinc-Dissolved	μg/L	5	<1	13	11
Aluminium-Dissolved	μg/L	<10	<10	<10	<10

Miscellaneous Inorganics						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Date analysed	-	10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Turbidity	NTU	3.0	4.0	4.1	13	4.9
Electrical Conductivity	µS/cm	13,000	30,000	35,000	660	670
Salinity as NaCl *	mg/L	8,400	19,000	23,000	420	430
pH	pH Units	7.5	7.3	7.6	7.9	7.8
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	1.3	0.6	0.5	2.3	2.4
TKN in water	mg/L	0.8	0.3	0.3	1.5	1.5
Nitrate as N in water	mg/L	0.42	0.24	0.13	0.78	0.85
Nitrite as N in water	mg/L	0.050	0.028	0.011	0.10	0.11
Ammonia as N in water	mg/L	0.49	0.11	0.066	0.50	0.60
Phosphate as P in water	mg/L	0.069	0.04	0.03	0.01	0.03

Miscellaneous Inorganics					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Date analysed	-	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Turbidity	NTU	11	2.8	2.6	2.7
Electrical Conductivity	µS/cm	35,000	980	28,000	5,100
Salinity as NaCl *	mg/L	22,000	630	18,000	3,300
pH	pH Units	7.5	7.8	7.3	8.0
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	0.6	0.6	0.6	2.3
TKN in water	mg/L	0.5	0.3	0.4	0.3
Nitrate as N in water	mg/L	0.17	0.34	0.22	1.9
Nitrite as N in water	mg/L	0.021	0.011	0.015	0.094
Ammonia as N in water	mg/L	0.20	0.053	0.15	0.26
Phosphate as P in water	mg/L	0.04	0.02	0.02	0.03

Metals in Waters - Acid extractable						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Phosphorus - Total	mg/L	0.2	0.08	0.07	0.08	0.09

Metals in Waters - Acid extractable					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Phosphorus - Total	mg/L	0.1	0.07	0.09	0.06

PFAS in Waters Short						
Our Reference		297794-1	297794-2	297794-3	297794-4	297794-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	0.02	0.01	0.02	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	0.08	0.03	0.03	0.05	0.05
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.01	0.01
6:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.04	<0.04	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	102	100	101	103	100
Surrogate $^{13}C_2$ *PFOA*	%	98	100	103	102	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	99	98	100	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	103	103	100	101	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	84	80	102	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	38	28	29	83	93
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	56	40	37	107	110
Total Positive PFHxS & PFOS	µg/L	0.11	0.05	0.04	0.07	0.07
Total Positive PFOA & PFOS	µg/L	0.08	0.03	0.03	0.06	0.06
Total Positive PFAS	µg/L	0.11	0.05	0.04	0.08	0.08

PFAS in Waters Short					
Our Reference		297794-6	297794-7	297794-8	297794-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		10/06/2022	10/06/2022	10/06/2022	10/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Date analysed	-	14/06/2022	14/06/2022	14/06/2022	14/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	0.01	0.02	0.04
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.02	0.03	0.06
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01	0.02
6:2 FTS	µg/L	<0.02	<0.01	<0.02	<0.01
8:2 FTS	µg/L	<0.04	<0.02	<0.04	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	100	102	104	98
Surrogate $^{13}C_2$ *PFOA*	%	102	100	102	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101	101	101	102
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	103	102	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	81	104	84	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	30	85	29	58
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	37	100	43	80
Total Positive PFHxS & PFOS	µg/L	0.02	0.03	0.05	0.1
Total Positive PFOA & PFOS	µg/L	0.01	0.03	0.03	0.08
Total Positive PFAS	µg/L	0.02	0.04	0.05	0.11

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			14/06/2022	[NT]	[NT]	[NT]	[NT]	14/06/2022	[NT]
Date analysed	-			14/06/2022	[NT]	[NT]	[NT]	[NT]	14/06/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	94	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	120	[NT]	[NT]	[NT]	[NT]	125	[NT]
Surrogate toluene-d8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297794-2
Date extracted	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Date analysed	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	106	109
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	99	103
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	94	117
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	106	109
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	99	103
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	94	117
Surrogate o-Terphenyl	%		Org-020	96	1	95	98	3	99	101

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	[NT]
Date analysed	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	79	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	90	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	92	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	101	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	87	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	86	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	1	88	94	7	84	[NT]

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297794-3
Date prepared	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Date analysed	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	101	110
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	96	107
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	101	105
Copper-Total	µg/L	1	Metals-022	<1	1	3	3	0	104	97
Iron-Total	µg/L	10	Metals-022	<10	1	470	450	4	106	#
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	[NT]		111	[NT]
Manganese-Total	µg/L	5	Metals-022	<5	1	130	120	8	101	107
Nickel-Total	µg/L	1	Metals-022	<1	1	1	1	0	101	97
Lead-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	98	92
Zinc-Total	µg/L	1	Metals-022	<1	1	30	26	14	100	100
Aluminium-Total	µg/L	10	Metals-022	<10	1	60	50	18	96	86

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	297794-5
Date prepared	-			[NT]	4	14/06/2022	14/06/2022		[NT]	14/06/2022
Date analysed	-			[NT]	4	14/06/2022	14/06/2022		[NT]	14/06/2022
Arsenic-Total	µg/L	1	Metals-022	[NT]	4	<1	[NT]		[NT]	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	[NT]	4	<0.1	[NT]		[NT]	[NT]
Chromium-Total	µg/L	1	Metals-022	[NT]	4	<1	[NT]		[NT]	[NT]
Copper-Total	µg/L	1	Metals-022	[NT]	4	4	[NT]		[NT]	[NT]
Iron-Total	µg/L	10	Metals-022	[NT]	4	670	[NT]		[NT]	[NT]
Mercury-Total	µg/L	0.05	Metals-021	[NT]	4	<0.05	<0.05	0	[NT]	104
Manganese-Total	µg/L	5	Metals-022	[NT]	4	76	[NT]		[NT]	[NT]
Nickel-Total	µg/L	1	Metals-022	[NT]	4	1	[NT]		[NT]	[NT]
Lead-Total	µg/L	1	Metals-022	[NT]	4	1	[NT]		[NT]	[NT]
Zinc-Total	µg/L	1	Metals-022	[NT]	4	16	[NT]		[NT]	[NT]
Aluminium-Total	µg/L	10	Metals-022	[NT]	4	240	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297794-2
Date prepared	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Date analysed	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	98	101
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	97	96
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	1	<1	0	97	93
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	1	67	101	86
Iron-Dissolved	µg/L	10	Metals-022	<10	1	80	80	0	100	98
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	[NT]		107	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	120	120	0	99	95
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	86
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	86
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	8	8	0	104	96
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	10	10	0	101	114

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	297794-4
Date prepared	-			[NT]	3	14/06/2022	14/06/2022		[NT]	14/06/2022
Date analysed	-			[NT]	3	14/06/2022	14/06/2022		[NT]	14/06/2022
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	3	1	[NT]		[NT]	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	3	<0.1	[NT]		[NT]	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	3	1	[NT]		[NT]	[NT]
Copper-Dissolved	µg/L	1	Metals-022	[NT]	3	1	[NT]		[NT]	[NT]
Iron-Dissolved	µg/L	10	Metals-022	[NT]	3	<10	[NT]		[NT]	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	3	<0.05	<0.05	0	[NT]	99
Manganese-Dissolved	µg/L	5	Metals-022	[NT]	3	40	[NT]		[NT]	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	3	<1	[NT]		[NT]	[NT]
Lead-Dissolved	µg/L	1	Metals-022	[NT]	3	<1	[NT]		[NT]	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	3	9	[NT]		[NT]	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	[NT]	3	<10	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297794-2
Date prepared	-			10/06/2022	1	10/06/2022	10/06/2022		10/06/2022	10/06/2022
Date analysed	-			10/06/2022	1	10/06/2022	10/06/2022		10/06/2022	10/06/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	3.0	2.8	7	90	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	13000	13000	0	100	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	8400	8400	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.5	7.5	0	102	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	105	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.3	1.3	0	102	117
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.8	0.8	0	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.42	0.42	0	104	117
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.050	0.050	0	90	97
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.49	0.49	0	97	90
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.069	0.074	7	83	98

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	297794-2
Date prepared	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Date analysed	-			14/06/2022	1	14/06/2022	14/06/2022		14/06/2022	14/06/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.2	0.2	0	102	106

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			14/06/2022	[NT]	[NT]	[NT]	[NT]	14/06/2022	[NT]
Date analysed	-			14/06/2022	[NT]	[NT]	[NT]	[NT]	14/06/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	106	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	130	[NT]	[NT]	[NT]	[NT]	119	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

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CERTIFICATE OF ANALYSIS 298951

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	David W
Address	Suite 4.01, 55 Miller St, Pyrmont, NSW, 2009

Sample Details

Your Reference	**SC210108.01, WTP Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	27/06/2022
Date completed instructions received	27/06/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/06/2022
Date of Issue	28/06/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Diego Bigolin, Inorganics Supervisor
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Giovanni Agosti, Group Technical Manager
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Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	95	94	95	93	99
Surrogate toluene-d8	%	94	96	96	96	94
Surrogate 4-BFB	%	99	101	101	102	101

vTRH(C6-C10)/BTEXN in Water					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	101	100	102	95
Surrogate toluene-d8	%	96	97	104	94
Surrogate 4-BFB	%	100	100	100	99

svTRH (C10-C40) in Water						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	94	92	80	100	97

svTRH (C10-C40) in Water					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	88	100	100	102

PAHs in Water						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	95	86	85	85	88

PAHs in Water					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	76	87	81	86

All metals in water - total						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Arsenic-Total	µg/L	<1	1	2	<1	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	<1	<1	<1	<1
Copper-Total	µg/L	3	2	2	3	2
Iron-Total	µg/L	420	230	290	320	310
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	100	84	110	88	79
Nickel-Total	µg/L	1	1	1	2	4
Lead-Total	µg/L	<1	<1	1	<1	<1
Zinc-Total	µg/L	23	26	36	21	11
Aluminium-Total	µg/L	70	50	70	160	100

All metals in water - total					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Arsenic-Total	µg/L	1	<1	1	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	1	<1	1	<1
Copper-Total	µg/L	2	2	2	3
Iron-Total	µg/L	220	480	260	370
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	50	32	76	81
Nickel-Total	µg/L	<1	<1	1	2
Lead-Total	µg/L	<1	<1	1	<1
Zinc-Total	µg/L	12	5	35	30
Aluminium-Total	µg/L	140	40	100	80

All metals in water-dissolved						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Arsenic-Dissolved	µg/L	<1	1	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	0.2	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	<1	<1
Iron-Dissolved	µg/L	110	60	20	50	40
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	100	84	99	53	40
Nickel-Dissolved	µg/L	1	1	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	10	22	13	5	<1
Aluminium-Dissolved	µg/L	<10	<10	<10	<10	<10

All metals in water-dissolved					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Arsenic-Dissolved	µg/L	1	<1	1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	1
Iron-Dissolved	µg/L	<10	240	20	60
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	42	30	77	74
Nickel-Dissolved	µg/L	<1	<1	1	2
Lead-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	<1	<1	18	16
Aluminium-Dissolved	µg/L	<10	<10	<10	<10

Miscellaneous Inorganics						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Turbidity	NTU	3.6	1.8	2.5	5.0	4.2
Electrical Conductivity	µS/cm	5,700	30,000	25,000	1,800	1,900
Salinity as NaCl *	mg/L	3,600	19,000	16,000	1,200	1,200
pH	pH Units	7.5	7.3	7.3	7.8	7.9
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	1.0	0.6	0.8	0.7	0.7
TKN in water	mg/L	0.6	0.4	0.5	0.2	0.2
Nitrate as N in water	mg/L	0.38	0.17	0.29	0.44	0.44
Nitrite as N in water	mg/L	0.047	0.024	0.028	0.022	0.023
Ammonia as N in water	mg/L	0.36	0.22	0.42	0.045	0.048
Phosphate as P in water	mg/L	0.11	0.04	0.03	0.32	0.01

Miscellaneous Inorganics					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Turbidity	NTU	4.4	2.1	3.1	2.6
Electrical Conductivity	µS/cm	36,000	1,100	31,000	3,600
Salinity as NaCl *	mg/L	23,000	680	20,000	2,300
pH	pH Units	7.6	7.9	7.3	7.9
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	0.5	0.5	0.7	1.6
TKN in water	mg/L	0.4	0.3	0.5	0.3
Nitrate as N in water	mg/L	0.063	0.24	0.21	1.1
Nitrite as N in water	mg/L	<0.005	0.006	0.018	0.077
Ammonia as N in water	mg/L	0.13	0.036	0.24	0.33
Phosphate as P in water	mg/L	0.02	0.04	0.02	0.03

Metals in Waters - Acid extractable						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Phosphorus - Total	mg/L	0.2	0.09	0.08	0.5	0.1

Metals in Waters - Acid extractable					
Our Reference		298951-6	298951-7	298951-8	298951-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Date analysed	-	28/06/2022	28/06/2022	28/06/2022	28/06/2022
Phosphorus - Total	mg/L	0.09	0.1	0.07	0.07

PFAS in Waters Short						
Our Reference		298951-1	298951-2	298951-3	298951-4	298951-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.02	0.02	0.02	0.02	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	0.06	0.03	0.02	0.03	0.04
Perfluorooctanoic acid PFOA	µg/L	0.01	<0.01	0.01	0.02	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	102	102	98	97	97
Surrogate $^{13}C_2$ *PFOA*	%	106	102	108	109	105
Extracted ISTD $^{18}O_2$ *PFHxS*	%	111	102	111	116	113
Extracted ISTD $^{13}C_4$ *PFOS*	%	93	81	84	89	92
Extracted ISTD $^{13}C_4$ *PFOA*	%	82	62	58	76	82
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	79	30	30	53	65
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	85	33	34	51	72
Total Positive PFHxS & PFOS	µg/L	0.08	0.04	0.04	0.05	0.06
Total Positive PFOA & PFOS	µg/L	0.07	0.03	0.04	0.05	0.06
Total Positive PFAS	µg/L	0.09	0.04	0.06	0.07	0.08

PFAS in Waters Short					
Our Reference	UNITS	298951-6	298951-7	298951-8	298951-9
Your Reference		SW06	SW07	SW08	SW09
Date Sampled		23/06/2022	23/06/2022	23/06/2022	23/06/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Date analysed	-	27/06/2022	27/06/2022	27/06/2022	27/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.01	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.01	0.02	0.05
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	0.01	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	105	96	100	102
Surrogate $^{13}C_2$ *PFOA*	%	113	105	110	110
Extracted ISTD $^{18}O_2$ *PFHxS*	%	111	111	107	114
Extracted ISTD $^{13}C_4$ *PFOS*	%	83	92	85	88
Extracted ISTD $^{13}C_4$ *PFOA*	%	59	80	63	74
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	30	58	31	51
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	28	62	31	52
Total Positive PFHxS & PFOS	µg/L	<0.01	0.01	0.04	0.07
Total Positive PFOA & PFOS	µg/L	<0.01	0.02	0.04	0.07
Total Positive PFAS	µg/L	<0.01	0.02	0.05	0.09

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			27/06/2022	[NT]	[NT]	[NT]	[NT]	27/06/2022	[NT]
Date analysed	-			28/06/2022	[NT]	[NT]	[NT]	[NT]	28/06/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	103	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	103	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			27/06/2022	2	27/06/2022	27/06/2022		27/06/2022	[NT]
Date analysed	-			27/06/2022	2	27/06/2022	27/06/2022		27/06/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	2	<50	<50	0	103	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	2	<100	<100	0	107	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	2	<100	<100	0	94	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	2	<50	<50	0	103	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	2	<100	<100	0	107	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	2	<100	<100	0	94	[NT]
Surrogate o-Terphenyl	%		Org-020	94	2	92	81	13	93	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	298951-3
Date extracted	-			27/06/2022	2	27/06/2022	27/06/2022		27/06/2022	27/06/2022
Date analysed	-			27/06/2022	2	27/06/2022	27/06/2022		27/06/2022	27/06/2022
Naphthalene	µg/L	1	Org-022/025	<1	2	<1	<1	0	90	97
Acenaphthylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	85	97
Fluorene	µg/L	1	Org-022/025	<1	2	<1	<1	0	86	99
Phenanthrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	118	120
Anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	94	112
Pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	107	111
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	2	<1	<1	0	69	77
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	82	100
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	92	2	86	78	10	87	94

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	298951-2
Date prepared	-			28/06/2022	1	28/06/2022	28/06/2022		28/06/2022	28/06/2022
Date analysed	-			28/06/2022	1	28/06/2022	28/06/2022		28/06/2022	28/06/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	103	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	103	[NT]
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	103	[NT]
Copper-Total	µg/L	1	Metals-022	<1	1	3	3	0	104	[NT]
Iron-Total	µg/L	10	Metals-022	<10	1	420	380	10	105	[NT]
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	95
Manganese-Total	µg/L	5	Metals-022	<5	1	100	100	0	104	[NT]
Nickel-Total	µg/L	1	Metals-022	<1	1	1	1	0	102	[NT]
Lead-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	106	[NT]
Zinc-Total	µg/L	1	Metals-022	<1	1	23	22	4	102	[NT]
Aluminium-Total	µg/L	10	Metals-022	<10	1	70	60	15	108	[NT]

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	298951-3
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	28/06/2022
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	28/06/2022
Arsenic-Total	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	107
Cadmium-Total	µg/L	0.1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	112
Chromium-Total	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	102
Copper-Total	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	90
Iron-Total	µg/L	10	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
Manganese-Total	µg/L	5	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
Nickel-Total	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	92
Lead-Total	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	98
Zinc-Total	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	97
Aluminium-Total	µg/L	10	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	#

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	298951-2
Date prepared	-			28/06/2022	1	28/06/2022	28/06/2022		28/06/2022	28/06/2022
Date analysed	-			28/06/2022	1	28/06/2022	28/06/2022		28/06/2022	28/06/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	103	106
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	105	105
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	104	102
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	91
Iron-Dissolved	µg/L	10	Metals-022	<10	1	110	120	9	105	84
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	120	110
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	100	100	0	107	101
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	102	91
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	105	94
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	10	12	18	103	73
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	10	0	113	116

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	298951-2
Date prepared	-			27/06/2022	1	27/06/2022	27/06/2022		27/06/2022	27/06/2022
Date analysed	-			27/06/2022	1	27/06/2022	27/06/2022		27/06/2022	27/06/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	3.6	3.4	6	92	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	5700	5700	0	105	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	3600	3600	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.5	7.6	1	101	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	104	95
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.0	1	0	102	112
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.6	0.5	18	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.38	0.38	0	103	85
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.047	0.047	0	83	98
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.36	0.36	0	102	118
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.11	0.12	9	113	106

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	298951-2
Date prepared	-			28/06/2022	1	28/06/2022	28/06/2022		28/06/2022	28/06/2022
Date analysed	-			28/06/2022	1	28/06/2022	28/06/2022		28/06/2022	28/06/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.2	0.2	0	106	117

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	298951-2
Date prepared	-			27/06/2022	1	27/06/2022	27/06/2022		27/06/2022	27/06/2022
Date analysed	-			27/06/2022	1	27/06/2022	27/06/2022		27/06/2022	27/06/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	101	90
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.06	0.06	0	107	103
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	106	109
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	117	132
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	117
Surrogate $^{13}C_8$ PFOS	%		Org-029	102	1	102	94	8	100	97
Surrogate $^{13}C_2$ PFOA	%		Org-029	104	1	106	108	2	107	113
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	109	1	111	114	3	107	112
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	98	1	93	96	3	97	84
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	108	1	82	76	8	107	58
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	129	1	79	58	31	123	27
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	135	1	85	70	19	141	30

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

pH/Nutrients/turbidity
Samples were out of the recommended holding time for this analysis.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

All metals in water - total - # Poor spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the poor recovery was confirmed.
This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 299608

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	David W
Address	Suite 4.01, 55 Miller St, Pyrmont, NSW, 2009

Sample Details	
Your Reference	**SC210108.01, WTP Surface Water Monitoring**
Number of Samples	6 Water
Date samples received	04/07/2022
Date completed instructions received	04/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details	
Date results requested by	05/07/2022
Date of Issue	05/07/2022
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***	

Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Date analysed	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	98	99	98	105	98
Surrogate toluene-d8	%	96	97	96	97	96
Surrogate 4-BFB	%	105	103	104	105	106

vTRH(C6-C10)/BTEXN in Water		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date extracted	-	04/07/2022
Date analysed	-	05/07/2022
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	99
Surrogate toluene-d8	%	96
Surrogate 4-BFB	%	105

svTRH (C10-C40) in Water						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Date analysed	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
TRH C_{10} - C_{14}	µg/L	66	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	120	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	190	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	62	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	62	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	160	<100	100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	220	<50	100	<50	<50
Surrogate o-Terphenyl	%	84	107	103	108	68

svTRH (C10-C40) in Water		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date extracted	-	05/07/2022
Date analysed	-	05/07/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	67

PAHs in Water						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Date analysed	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	99	95	105	99

PAHs in Water		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date extracted	-	05/07/2022
Date analysed	-	05/07/2022
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate p-Terphenyl-d14	%	94

All metals in water - total						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Date analysed	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Arsenic-Total	µg/L	2	2	2	2	3
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	0.1
Chromium-Total	µg/L	2	3	4	3	4
Copper-Total	µg/L	10	11	12	8	14
Iron-Total	µg/L	650	900	1,100	880	1,200
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	22	29	33	21	35
Nickel-Total	µg/L	2	2	3	2	3
Lead-Total	µg/L	4	5	7	4	10
Zinc-Total	µg/L	65	68	79	39	73
Aluminium-Total	µg/L	830	1,000	1,200	1,300	1,700

All metals in water - total		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date prepared	-	05/07/2022
Date analysed	-	05/07/2022
Arsenic-Total	µg/L	3
Cadmium-Total	µg/L	<0.1
Chromium-Total	µg/L	4
Copper-Total	µg/L	9
Iron-Total	µg/L	960
Mercury-Total	µg/L	<0.05
Manganese-Total	µg/L	22
Nickel-Total	µg/L	2
Lead-Total	µg/L	4
Zinc-Total	µg/L	86
Aluminium-Total	µg/L	1,300

All metals in water-dissolved						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Date analysed	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Arsenic-Dissolved	μg/L	2	2	2	2	2
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	<1	<1	2	1	<1
Copper-Dissolved	μg/L	6	5	6	6	7
Iron-Dissolved	μg/L	240	200	300	440	370
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	μg/L	15	11	19	13	21
Nickel-Dissolved	μg/L	1	<1	1	1	1
Lead-Dissolved	μg/L	1	1	1	2	2
Zinc-Dissolved	μg/L	45	35	47	29	42
Aluminium-Dissolved	μg/L	370	310	400	700	510

All metals in water-dissolved		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date prepared	-	05/07/2022
Date analysed	-	05/07/2022
Arsenic-Dissolved	μg/L	2
Cadmium-Dissolved	μg/L	<0.1
Chromium-Dissolved	μg/L	2
Copper-Dissolved	μg/L	6
Iron-Dissolved	μg/L	250
Mercury-Dissolved	μg/L	<0.05
Manganese-Dissolved	μg/L	10
Nickel-Dissolved	μg/L	<1
Lead-Dissolved	μg/L	1
Zinc-Dissolved	μg/L	59
Aluminium-Dissolved	μg/L	450

Miscellaneous Inorganics						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Date analysed	-	04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Turbidity	NTU	15	46	26	21	35
Electrical Conductivity	µS/cm	330	350	550	350	360
Salinity as NaCl *	mg/L	210	220	350	230	230
pH	pH Units	7.2	7.5	7.4	7.6	7.4
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nitrogen in water	mg/L	2.7	1.7	2.4	1.5	2.4
TKN in water	mg/L	1.8	0.8	1.4	0.3	1.4
Nitrate as N in water	mg/L	0.94	0.89	1.0	1.2	1.0
Nitrite as N in water	mg/L	0.025	0.025	0.031	0.013	0.022
Ammonia as N in water	mg/L	0.48	0.22	0.49	0.033	0.30
Phosphate as P in water	mg/L	0.22	0.13	0.21	0.082	0.17

Miscellaneous Inorganics		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date prepared	-	04/07/2022
Date analysed	-	04/07/2022
Turbidity	NTU	23
Electrical Conductivity	µS/cm	350
Salinity as NaCl *	mg/L	230
pH	pH Units	7.6
Trivalent Chromium	mg/L	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001
Total Nitrogen in water	mg/L	1.5
TKN in water	mg/L	0.4
Nitrate as N in water	mg/L	1.1
Nitrite as N in water	mg/L	0.019
Ammonia as N in water	mg/L	0.057
Phosphate as P in water	mg/L	0.077

Metals in Waters - Acid extractable						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Date analysed	-	05/07/2022	05/07/2022	05/07/2022	05/07/2022	05/07/2022
Phosphorus - Total	mg/L	0.3	0.2	0.3	0.1	0.3

Metals in Waters - Acid extractable		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date prepared	-	05/07/2022
Date analysed	-	05/07/2022
Phosphorus - Total	mg/L	0.1

PFAS in Waters Short						
Our Reference		299608-1	299608-2	299608-3	299608-4	299608-5
Your Reference	UNITS	SW01	SW02	SW03	SW07	SW08
Date Sampled		04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Date analysed	-	04/07/2022	04/07/2022	04/07/2022	04/07/2022	04/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.04	0.03	0.03	0.01	0.02
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	0.02	<0.01	0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	93	94	97	94	94
Surrogate $^{13}C_2$ *PFOA*	%	115	107	107	107	110
Extracted ISTD $^{18}O_2$ *PFHxS*	%	114	118	113	117	114
Extracted ISTD $^{13}C_4$ *PFOS*	%	109	111	108	111	108
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	109	112	111	111
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	72	100	105	102	105
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	68	94	102	104	112
Total Positive PFHxS & PFOS	µg/L	0.04	0.03	0.04	0.01	0.02
Total Positive PFOA & PFOS	µg/L	0.04	0.04	0.05	0.01	0.04
Total Positive PFAS	µg/L	0.04	0.04	0.06	0.01	0.04

PFAS in Waters Short		
Our Reference		299608-6
Your Reference	UNITS	SW09
Date Sampled		04/07/2022
Type of sample		Water
Date prepared	-	04/07/2022
Date analysed	-	04/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02
Perfluorooctanoic acid PFOA	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	100
Surrogate $^{13}C_2$ *PFOA*	%	107
Extracted ISTD $^{18}O_2$ *PFHxS*	%	111
Extracted ISTD $^{13}C_4$ *PFOS*	%	107
Extracted ISTD $^{13}C_4$ *PFOA*	%	112
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	104
Total Positive PFHxS & PFOS	µg/L	0.02
Total Positive PFOA & PFOS	µg/L	0.02
Total Positive PFAS	µg/L	0.02

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date extracted	-			04/07/2022	1	04/07/2022	05/07/2022		04/07/2022	[NT]
Date analysed	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	99	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	99	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	99	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	99	1	98	97	1	102	[NT]
Surrogate toluene-d8	%		Org-023	96	1	96	97	1	101	[NT]
Surrogate 4-BFB	%		Org-023	105	1	105	104	1	101	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-2
Date extracted	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Date analysed	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	66	71	7	110	122
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	120	120	0	110	122
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	100	84
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	62	61	2	110	122
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	160	170	6	110	122
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	100	84
Surrogate o-Terphenyl	%		Org-020	116	1	84	85	1	102	111

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-4
Date extracted	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Date analysed	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	103	109
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	107	109
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	109	113
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	124	128
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	108	116
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	119	113
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	95	99
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	128	126
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	100	1	92	97	5	101	99

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-2
Date prepared	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Date analysed	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	2	2	0	102	104
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	105	108
Chromium-Total	µg/L	1	Metals-022	<1	1	2	2	0	101	100
Copper-Total	µg/L	1	Metals-022	<1	1	10	11	10	105	103
Iron-Total	µg/L	10	Metals-022	<10	1	650	630	3	103	#
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	96	98
Manganese-Total	µg/L	5	Metals-022	<5	1	22	23	4	101	100
Nickel-Total	µg/L	1	Metals-022	<1	1	2	2	0	103	104
Lead-Total	µg/L	1	Metals-022	<1	1	4	4	0	104	104
Zinc-Total	µg/L	1	Metals-022	<1	1	65	67	3	106	97
Aluminium-Total	µg/L	10	Metals-022	<10	1	830	750	10	102	#

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-2
Date prepared	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Date analysed	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	104	102
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	105	104
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	104	100
Copper-Dissolved	µg/L	1	Metals-022	<1	1	6	6	0	105	101
Iron-Dissolved	µg/L	10	Metals-022	<10	1	240	220	9	105	#
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	97	98
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	15	15	0	104	101
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	104	101
Lead-Dissolved	µg/L	1	Metals-022	<1	1	1	2	67	102	98
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	45	43	5	106	108
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	370	360	3	109	#

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-2
Date prepared	-			04/07/2022	1	04/07/2022	04/07/2022		04/07/2022	04/07/2022
Date analysed	-			04/07/2022	1	04/07/2022	04/07/2022		04/07/2022	04/07/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	15	15	0	94	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	330	330	0	101	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	210	210	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.2	7.3	1	100	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	98	102
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	2.7	2.7	0	99	89
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	1.8	1.7	6	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.94	0.92	2	103	95
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.025	0.024	4	91	104
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.48	0.43	11	105	99
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.22	0.21	5	113	120

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-2
Date prepared	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Date analysed	-			05/07/2022	1	05/07/2022	05/07/2022		05/07/2022	05/07/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.3	0.3	0	108	100

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	299608-2
Date prepared	-			04/07/2022	1	04/07/2022	04/07/2022		04/07/2022	04/07/2022
Date analysed	-			04/07/2022	1	04/07/2022	04/07/2022		04/07/2022	04/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	92	103
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.04	0.04	0	94	100
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	110
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	97	109
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	114
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	103	1	93	98	5	99	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	108	1	115	107	7	112	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	117	1	114	118	3	115	110
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	103	1	109	110	1	106	108
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	109	1	96	104	8	106	108
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	100	1	72	82	13	100	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	108	1	68	80	16	92	86

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

All metals in water-dissolved - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 301948

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Kellie Hunt
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, WTP Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	28/07/2022
Date completed instructions received	28/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/08/2022
Date of Issue	03/08/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Josh Williams, Organics and LC Supervisor
Kyle Gavrily, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	93	99	93	94	91
Surrogate toluene-d8	%	97	96	97	97	96
Surrogate 4-BFB	%	104	102	104	102	100

vTRH(C6-C10)/BTEXN in Water					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	93	94	99	99
Surrogate toluene-d8	%	97	97	96	97
Surrogate 4-BFB	%	106	102	103	101

svTRH (C10-C40) in Water						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	83	81	88	83	82

svTRH (C10-C40) in Water					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	75	78	114	74

PAHs in Water						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	87	105	83	90	108

PAHs in Water					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	107	115	73	98

All metals in water - total						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Arsenic-Total	µg/L	1	2	2	1	1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt-Total	µg/L	<1	<1	<1	<1	<1
Chromium-Total	µg/L	<1	<1	2	<1	<1
Copper-Total	µg/L	4	3	3	5	4
Iron-Total	µg/L	470	380	380	1,300	1,200
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	66	75	90	83	80
Nickel-Total	µg/L	1	1	1	1	1
Lead-Total	µg/L	<1	<1	2	3	2
Zinc-Total	µg/L	48	34	33	30	30
Aluminium-Total	µg/L	250	270	140	600	710

All metals in water - total					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Arsenic-Total	µg/L	1	1	2	3
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Cobalt-Total	µg/L	<1	<1	<1	<1
Chromium-Total	µg/L	1	<1	1	1
Copper-Total	µg/L	2	4	4	4
Iron-Total	µg/L	640	730	870	320
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	77	66	110	75
Nickel-Total	µg/L	1	1	2	3
Lead-Total	µg/L	1	1	8	<1
Zinc-Total	µg/L	19	17	38	19
Aluminium-Total	µg/L	360	410	410	340

All metals in water-dissolved						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Arsenic-Dissolved	µg/L	2	2	2	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	2	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	3	2	1	2	2
Iron-Dissolved	µg/L	210	50	30	410	390
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	64	74	85	68	62
Nickel-Dissolved	µg/L	1	1	1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	25	18	21	11	11
Aluminium-Dissolved	µg/L	110	20	10	230	210

All metals in water-dissolved					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Arsenic-Dissolved	µg/L	1	<1	1	2
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	1	3	2	3
Iron-Dissolved	µg/L	80	280	100	20
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	69	65	110	73
Nickel-Dissolved	µg/L	<1	1	1	3
Lead-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	10	16	54	12
Aluminium-Dissolved	µg/L	40	80	40	20

Miscellaneous Inorganics						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022
Date analysed	-	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022
Turbidity	NTU	7.6	9.1	6.4	28	23
Electrical Conductivity	µS/cm	1,500	8,100	17,000	580	580
Salinity as NaCl *	mg/L	980	5,200	11,000	370	370
pH	pH Units	7.7	7.7	7.6	7.8	7.9
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	0.001	0.002	0.002	0.002
Total Nitrogen in water	mg/L	1	1.0	0.8	0.9	0.8
TKN in water	mg/L	0.4	0.4	0.4	0.4	0.3
Nitrate as N in water	mg/L	0.52	0.60	0.37	0.53	0.52
Nitrite as N in water	mg/L	0.007	0.020	0.008	0.006	0.006
Ammonia as N in water	mg/L	0.14	0.19	0.28	0.087	0.082
Phosphate as P in water	mg/L	0.25	0.20	0.080	0.05	0.05
Total Suspended Solids	mg/L	9	<5	7	14	19

Miscellaneous Inorganics					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	01/08/2022	01/08/2022	01/08/2022	01/08/2022
Date analysed	-	01/08/2022	01/08/2022	01/08/2022	01/08/2022
Turbidity	NTU	8.4	5.2	17	29
Electrical Conductivity	µS/cm	18,000	690	10,000	2,100
Salinity as NaCl *	mg/L	12,000	440	6,500	1,300
pH	pH Units	7.6	7.8	7.6	8.0
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	0.002	0.002	0.001
Total Nitrogen in water	mg/L	0.7	0.5	0.9	1.9
TKN in water	mg/L	0.4	0.3	0.5	0.4
Nitrate as N in water	mg/L	0.33	0.26	0.45	1.4
Nitrite as N in water	mg/L	<0.005	<0.005	0.006	0.058
Ammonia as N in water	mg/L	0.21	0.025	0.31	0.49
Phosphate as P in water	mg/L	0.055	0.054	0.059	0.04
Total Suspended Solids	mg/L	22	<5	12	6

Metals in Waters - Acid extractable						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Phosphorus - Total	mg/L	0.3	0.2	0.1	0.07	0.07

Metals in Waters - Acid extractable					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	02/08/2022
Phosphorus - Total	mg/L	0.09	0.07	0.08	0.06

PFAS in Waters Short						
Our Reference		301948-1	301948-2	301948-3	301948-4	301948-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.02	0.03	0.02	0.02	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	0.16	0.05	0.05	0.03	0.03
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01	0.01	0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	113	102	112	101	106
Surrogate $^{13}C_2$ *PFOA*	%	100	101	99	101	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	94	95	98	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	94	99	93	102	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	89	86	96	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	54	45	91	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	107	73	54	106	114
Total Positive PFHxS & PFOS	µg/L	0.19	0.07	0.08	0.05	0.05
Total Positive PFOA & PFOS	µg/L	0.16	0.06	0.05	0.05	0.04
Total Positive PFAS	µg/L	0.19	0.08	0.08	0.06	0.06

PFAS in Waters Short					
Our Reference		301948-6	301948-7	301948-8	301948-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/07/2022	28/07/2022	28/07/2022	28/07/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	0.01	0.02	0.03
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.03	0.06	0.05
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.01	0.02
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	103	98	107	114
Surrogate $^{13}C_2$ *PFOA*	%	102	99	99	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	95	93	97
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	104	97	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	85	95	88	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	46	95	50	80
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	60	108	64	100
Total Positive PFHxS & PFOS	µg/L	0.03	0.04	0.08	0.08
Total Positive PFOA & PFOS	µg/L	0.02	0.03	0.07	0.06
Total Positive PFAS	µg/L	0.03	0.04	0.09	0.09

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	[NT]
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	107	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	107	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	103	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	102	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	109	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	110	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	93	1	93	87	7	97	[NT]
Surrogate toluene-d8	%		Org-023	97	1	97	89	9	101	[NT]
Surrogate 4-BFB	%		Org-023	103	1	104	99	5	104	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301948-2
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	112	98
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	107	101
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	114	89
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	112	98
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	107	101
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	114	89
Surrogate o-Terphenyl	%		Org-020	85	1	83	81	2	109	81

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301948-3
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	72	76
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	69	71
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	72	78
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	73	77
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	74	78
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	75	81
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	77	83
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	88	96
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	86	1	87	81	7	81	84

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301948-2
Date prepared	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	03/08/2022
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	03/08/2022
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	99	[NT]
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	103	[NT]
Cobalt-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Copper-Total	µg/L	1	Metals-022	<1	1	4	4	0	98	[NT]
Iron-Total	µg/L	10	Metals-022	<10	1	470	480	2	100	[NT]
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	100	97
Manganese-Total	µg/L	5	Metals-022	<5	1	66	67	2	99	[NT]
Nickel-Total	µg/L	1	Metals-022	<1	1	1	2	67	98	[NT]
Lead-Total	µg/L	1	Metals-022	<1	1	<1	1	0	98	[NT]
Zinc-Total	µg/L	1	Metals-022	<1	1	48	49	2	99	[NT]
Aluminium-Total	µg/L	10	Metals-022	<10	1	250	280	11	100	[NT]

QUALITY CONTROL: All metals in water - total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	301948-3
Date prepared	-			[NT]	9	03/08/2022	03/08/2022		[NT]	03/08/2022
Date analysed	-			[NT]	9	03/08/2022	03/08/2022		[NT]	03/08/2022
Arsenic-Total	µg/L	1	Metals-022	[NT]	9	3	3	0	[NT]	105
Cadmium-Total	µg/L	0.1	Metals-022	[NT]	9	<0.1	<0.1	0	[NT]	103
Cobalt-Total	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	99
Chromium-Total	µg/L	1	Metals-022	[NT]	9	1	1	0	[NT]	102
Copper-Total	µg/L	1	Metals-022	[NT]	9	4	4	0	[NT]	94
Iron-Total	µg/L	10	Metals-022	[NT]	9	320	310	3	[NT]	#
Mercury-Total	µg/L	0.05	Metals-021	[NT]	9	<0.05	[NT]		[NT]	[NT]
Manganese-Total	µg/L	5	Metals-022	[NT]	9	75	76	1	[NT]	101
Nickel-Total	µg/L	1	Metals-022	[NT]	9	3	3	0	[NT]	95
Lead-Total	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	93
Zinc-Total	µg/L	1	Metals-022	[NT]	9	19	19	0	[NT]	99
Aluminium-Total	µg/L	10	Metals-022	[NT]	9	340	290	16	[NT]	116

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301948-2
Date prepared	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	03/08/2022
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	03/08/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	[NT]		96	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	[NT]		103	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		97	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		95	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	3	[NT]		95	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	210	[NT]		96	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	95
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	64	[NT]		95	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	[NT]		94	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		98	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	25	[NT]		96	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	110	[NT]		94	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	301948-4
Date prepared	-			[NT]	3	03/08/2022	03/08/2022		[NT]	03/08/2022
Date analysed	-			[NT]	3	03/08/2022	03/08/2022		[NT]	03/08/2022
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	3	2	2	0	[NT]	95
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	3	<0.1	<0.1	0	[NT]	101
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	3	2	1	67	[NT]	97
Cobalt-Dissolved	µg/L	1	Metals-022	[NT]	3	<1	<1	0	[NT]	97
Copper-Dissolved	µg/L	1	Metals-022	[NT]	3	1	1	0	[NT]	98
Iron-Dissolved	µg/L	10	Metals-022	[NT]	3	30	30	0	[NT]	#
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	3	<0.05	[NT]		[NT]	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	[NT]	3	85	86	1	[NT]	94
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	3	1	1	0	[NT]	97
Lead-Dissolved	µg/L	1	Metals-022	[NT]	3	<1	<1	0	[NT]	96
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	3	21	23	9	[NT]	97
Aluminium-Dissolved	µg/L	10	Metals-022	[NT]	3	10	10	0	[NT]	#

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301948-2
Date prepared	-			01/08/2022	1	01/08/2022	01/08/2022		01/08/2022	01/08/2022
Date analysed	-			01/08/2022	1	01/08/2022	01/08/2022		01/08/2022	01/08/2022
Turbidity	NTU	0.1	Inorg-022	<0.1	1	7.6	7.4	3	102	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1500	[NT]		104	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	980	[NT]		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.7	[NT]		102	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	0.001	0	115	109
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1	0.9	11	82	95
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.4	0.4	0	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.52	0.53	2	104	106
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.007	0.007	0	89	127
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.14	0.14	0	100	106
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.25	0.26	4	104	108
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	9	[NT]		114	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	9	01/08/2022	01/08/2022		[NT]	[NT]
Date analysed	-			[NT]	9	01/08/2022	01/08/2022		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	9	29	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	9	2100	[NT]		[NT]	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	[NT]	9	1300	[NT]		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	9	8.0	[NT]		[NT]	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	[NT]	9	0.001	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	9	1.9	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	9	0.4	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	9	1.4	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	9	0.058	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	9	0.49	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	9	0.04	[NT]		[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	9	6	[NT]		[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301948-2
Date prepared	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	03/08/2022
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	03/08/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.3	0.3	0	96	103

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	9	02/08/2022	02/08/2022		[NT]	[NT]
Date analysed	-			[NT]	9	02/08/2022	02/08/2022		[NT]	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	[NT]	9	0.06	0.05	18	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301948-2
Date prepared	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	100	98
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.16	0.17	6	101	106
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	108
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	100	107
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	94	95
Surrogate $^{13}C_8$ PFOS	%		Org-029	100	1	113	110	3	104	108
Surrogate $^{13}C_2$ PFOA	%		Org-029	100	1	100	102	2	101	102
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	95	1	98	96	2	95	98
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	102	1	94	94	0	101	98
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	99	1	97	95	2	96	87
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	104	1	99	92	7	108	50
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	112	1	107	99	8	120	66

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

All metals in water-dissolved - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 304302

Client Details

Client	Gamuda Australia and Laing O'Rourke Consortium
Attention	David Windnagel
Address	Sydney Metro Western Tunnelling Package, NSW

Sample Details

Your Reference	**WTP - Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	29/08/2022
Date completed instructions received	29/08/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	06/09/2022
Date of Issue	06/09/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Jaimie Loa-Kum-Cheung, Senior Chemist
Josh Williams, Organics and LC Supervisor
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

PFAS in Waters Extended						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Date analysed	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Perfluorobutanesulfonic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.02	0.01	0.02	0.01	0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.05	0.02	0.02	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	0.02	0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.02	0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	108	102	96	105	98
Surrogate $^{13}C_2$ *PFOA*	%	102	103	100	104	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	99	95	95	97	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	99	101	96	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	109	113	105	115
Extracted ISTD $^{13}C_4$ *PFBA*	%	109	100	85	125	117

PFAS in Waters Extended						
Our Reference	UNITS	304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference		SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	95	92	88	93	98
Extracted ISTD $^{13}C_2$ *PFHxA*	%	106	98	94	107	109
Extracted ISTD $^{13}C_4$ *PFHpA*	%	100	88	91	101	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	108	95	101	109	116
Extracted ISTD $^{13}C_5$ *PFNA*	%	111	101	96	108	113
Extracted ISTD $^{13}C_2$ *PFDA*	%	119	115	104	120	127
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	113	111	107	112	125
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	115	114	108	113	129
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	91	96	89	69	97
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	105	59	61	106	128
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	98	61	53	104	117
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	117	82	75	122	127
Extracted ISTD $^{13}C_8$ *FOSA*	%	109	112	113	113	114
Extracted ISTD d_3 *N MeFOSA*	%	109	107	106	107	114
Extracted ISTD d_5 *N EtFOSA*	%	106	107	108	108	117
Extracted ISTD d_7 *N MeFOSE*	%	100	106	101	105	110
Extracted ISTD d_9 *N EtFOSE*	%	103	107	102	104	110
Extracted ISTD d_3 *N MeFOSAA*	%	104	74	61	101	117
Extracted ISTD d_5 *N EtFOSAA*	%	105	79	62	102	117
Total Positive PFHxS & PFOS	µg/L	0.07	0.03	0.03	0.03	0.03
Total Positive PFOA & PFOS	µg/L	0.05	0.02	0.02	0.04	0.03
Total Positive PFAS	µg/L	0.08	0.03	0.03	0.07	0.06

PFAS in Waters Extended					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Date analysed	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	0.02
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.02	0.01	0.03
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	0.02
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	104	112	100	101
Surrogate $^{13}C_2$ *PFOA*	%	108	104	99	104
Extracted ISTD $^{13}C_3$ *PFBS*	%	95	100	94	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	101	98	97
Extracted ISTD $^{13}C_4$ *PFOS*	%	107	102	108	110
Extracted ISTD $^{13}C_4$ *PFBA*	%	110	134	93	116

PFAS in Waters Extended					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	86	94	87	94
Extracted ISTD $^{13}C_2$ *PFHxA*	%	96	108	96	104
Extracted ISTD $^{13}C_4$ *PFHpA*	%	91	104	91	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	99	108	99	108
Extracted ISTD $^{13}C_5$ *PFNA*	%	102	110	95	110
Extracted ISTD $^{13}C_2$ *PFDA*	%	111	121	109	116
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	109	117	109	113
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	111	118	112	116
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	97	100	100	100
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	63	119	60	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	57	105	55	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	121	89	118
Extracted ISTD $^{13}C_8$ *FOSA*	%	111	113	112	111
Extracted ISTD d_3 *N MeFOSA*	%	107	108	104	105
Extracted ISTD d_5 *N EtFOSA*	%	109	112	115	114
Extracted ISTD d_7 *N MeFOSE*	%	106	106	105	105
Extracted ISTD d_9 *N EtFOSE*	%	105	106	102	103
Extracted ISTD d_3 *N MeFOSAA*	%	70	109	72	104
Extracted ISTD d_5 *N EtFOSAA*	%	74	108	73	103
Total Positive PFHxS & PFOS	µg/L	0.02	0.03	0.01	0.04
Total Positive PFOA & PFOS	µg/L	0.02	0.02	0.01	0.03
Total Positive PFAS	µg/L	0.02	0.03	0.01	0.06

vTRH(C6-C10)/BTEXN in Water						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Date analysed	-	01/09/2022	01/09/2022	01/09/2022	01/09/2022	01/09/2022
TRH C_6 - C_9	µg/L	<10	36	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	36	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	36	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	105	104	102	102
Surrogate toluene-d8	%	95	97	96	94	96
Surrogate 4-BFB	%	96	93	93	92	94

vTRH(C6-C10)/BTEXN in Water					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Date analysed	-	01/09/2022	01/09/2022	01/09/2022	01/09/2022
TRH C_6 - C_9	µg/L	<10	<10	19	<10
TRH C_6 - C_{10}	µg/L	<10	<10	20	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	20	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	103	102	106
Surrogate toluene-d8	%	95	95	96	96
Surrogate 4-BFB	%	94	92	93	93

svTRH (C10-C40) in Water						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	05/09/2022	05/09/2022	05/09/2022	05/09/2022	05/09/2022
Date analysed	-	05/09/2022	05/09/2022	06/09/2022	06/09/2022	06/09/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	88	89	100	105	86

svTRH (C10-C40) in Water					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	05/09/2022	05/09/2022	05/09/2022	05/09/2022
Date analysed	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	86	82	104	84

PAHs in Water						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	05/09/2022	05/09/2022	05/09/2022	05/09/2022	05/09/2022
Date analysed	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	77	79	73	79	75

PAHs in Water					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	05/09/2022	05/09/2022	05/09/2022	05/09/2022
Date analysed	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	74	69	76	73

Miscellaneous Inorganics						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022
Date analysed	-	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022
pH	pH Units	7.4	7.3	7.8	7.7	7.8
Electrical Conductivity	µS/cm	1,700	9,600	24,000	450	450
Turbidity	NTU	6.2	4.6	3.2	7.6	6.7
Total Suspended Solids	mg/L	10	11	10	13	6
Salinity as NaCl *	mg/L	1,100	6,200	15,000	290	290
Total Nitrogen in water	mg/L	1.6	0.6	0.5	1	0.7
NOx as N in water	mg/L	0.55	0.4	0.2	0.74	0.4
Ammonia as N in water	mg/L	0.18	0.15	0.048	0.073	0.074
Phosphate as P in water	mg/L	<0.005	0.03	0.007	0.005	0.005
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	30/08/2022	30/08/2022	30/08/2022	30/08/2022
Date analysed	-	30/08/2022	30/08/2022	30/08/2022	30/08/2022
pH	pH Units	7.6	7.7	7.3	8.0
Electrical Conductivity	µS/cm	16,000	550	13,000	1,400
Turbidity	NTU	3.4	4.8	5.3	4.2
Total Suspended Solids	mg/L	7	7	12	6
Salinity as NaCl *	mg/L	10,000	350	8,100	890
Total Nitrogen in water	mg/L	0.5	0.7	1.0	1.2
NOx as N in water	mg/L	0.2	0.4	1.2	1.2
Ammonia as N in water	mg/L	0.050	0.019	0.30	0.094
Phosphate as P in water	mg/L	0.006	0.02	0.02	0.006
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005

All metals in water - total						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Date analysed	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Aluminium-Total	μg/L	330	150	160	710	430
Arsenic-Total	μg/L	1	1	1	<1	<1
Cadmium-Total	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Total	μg/L	<1	<1	2	1	<1
Cobalt-Total	μg/L	<1	<1	<1	<1	<1
Copper-Total	μg/L	5	3	2	23	3
Iron-Total	μg/L	480	230	310	620	560
Mercury-Total	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	μg/L	53	47	51	66	67
Nickel-Total	μg/L	1	1	1	2	<1
Lead-Total	μg/L	1	<1	2	2	1
Zinc-Total	μg/L	95	41	27	75	26

All metals in water - total					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Date analysed	-	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Aluminium-Total	μg/L	240	210	260	200
Arsenic-Total	μg/L	1	1	1	2
Cadmium-Total	μg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	μg/L	1	<1	<1	<1
Cobalt-Total	μg/L	<1	<1	<1	<1
Copper-Total	μg/L	3	4	4	4
Iron-Total	μg/L	360	700	370	370
Mercury-Total	μg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	μg/L	58	38	54	90
Nickel-Total	μg/L	<1	1	1	1
Lead-Total	μg/L	1	1	2	<1
Zinc-Total	μg/L	90	32	140	25

Metals in Waters - Acid extractable						
Our Reference		304302-1	304302-2	304302-3	304302-4	304302-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/09/2022	01/09/2022	01/09/2022	01/09/2022	01/09/2022
Date analysed	-	01/09/2022	01/09/2022	01/09/2022	01/09/2022	01/09/2022
Phosphorus - Total	mg/L	0.09	0.07	0.06	<0.05	<0.05

Metals in Waters - Acid extractable					
Our Reference		304302-6	304302-7	304302-8	304302-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		29/08/2022	29/08/2022	29/08/2022	29/08/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	01/09/2022	01/09/2022	01/09/2022	01/09/2022
Date analysed	-	01/09/2022	01/09/2022	01/09/2022	01/09/2022
Phosphorus - Total	mg/L	<0.05	0.09	0.08	0.06

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304302-2
Date prepared	-			31/08/2022	1	31/08/2022	31/08/2022		31/08/2022	31/08/2022
Date analysed	-			31/08/2022	1	31/08/2022	31/08/2022		31/08/2022	31/08/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.02	67	108	120
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	114	118
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	108	107
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	122	124
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.05	0.06	18	115	117
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	105
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	104
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	110
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	108
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	113	109
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	111	110
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	112
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	110
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	111	101
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	109	108
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	109	90
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	110	104
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	106
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	111	107
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	117	113
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	119	115
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	107	108
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	108	107
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	102	108
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	113	110
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	125	111
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	116	126
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	113
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	109	1	108	106	2	103	105
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	101	1	102	96	6	102	102

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304302-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	92	1	99	96	3	95	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	95	1	96	93	3	94	98
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	97	1	104	107	3	102	106
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	112	1	109	110	1	110	97
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	97	1	95	94	1	93	88
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	100	1	106	104	2	102	98
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	98	1	100	96	4	94	96
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	1	108	106	2	99	98
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	107	1	111	105	6	105	104
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	110	1	119	115	3	104	114
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	103	1	113	106	6	103	114
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	110	1	115	113	2	106	113
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	98	1	91	94	3	94	80
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	102	1	105	100	5	106	62
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	106	1	98	97	1	100	63
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	125	1	117	111	5	118	89
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	113	1	109	108	1	105	108
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	103	1	109	102	7	100	107
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	109	1	106	106	0	105	105
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	102	1	100	101	1	101	103

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304302-2
Extracted ISTD d_9 N EtFOSE	%		Org-029	100	1	103	109	6	100	105
Extracted ISTD d_3 N MeFOSAA	%		Org-029	106	1	104	101	3	107	75
Extracted ISTD d_5 N EtFOSAA	%		Org-029	115	1	105	98	7	112	77

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			31/08/2022	2	31/08/2022	02/09/2022		31/08/2022	[NT]
Date analysed	-			01/09/2022	2	01/09/2022	03/09/2022		01/09/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	2	36	18	67	110	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	2	36	22	48	110	[NT]
Benzene	µg/L	1	Org-023	<1	2	<1	<1	0	113	[NT]
Toluene	µg/L	1	Org-023	<1	2	<1	<1	0	108	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	2	<1	<1	0	109	[NT]
m+p-xylene	µg/L	2	Org-023	<2	2	<2	<2	0	110	[NT]
o-xylene	µg/L	1	Org-023	<1	2	<1	<1	0	111	[NT]
Naphthalene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	2	105	113	7	101	[NT]
Surrogate toluene-d8	%		Org-023	96	2	97	104	7	99	[NT]
Surrogate 4-BFB	%		Org-023	92	2	93	105	12	97	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304302-2
Date extracted	-			05/09/2022	1	05/09/2022	05/09/2022		05/09/2022	05/09/2022
Date analysed	-			06/09/2022	1	05/09/2022	05/09/2022		05/09/2022	06/09/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	85	90
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	82	90
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	78	83
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	85	90
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	82	90
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	78	83
Surrogate o-Terphenyl	%		Org-020	91	1	88	83	6	84	109

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304302-2
Date extracted	-			05/09/2022	1	05/09/2022	05/09/2022		05/09/2022	05/09/2022
Date analysed	-			06/09/2022	1	06/09/2022	06/09/2022		05/09/2022	05/09/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	95	94
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	99	94
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	93	94
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	108	110
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	98	102
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	103	100
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	115	104
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	110	92
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	70	1	77	75	3	93	86

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304302-2
Date prepared	-			30/08/2022	1	30/08/2022	30/08/2022		30/08/2022	30/08/2022
Date analysed	-			30/08/2022	1	30/08/2022	30/08/2022		30/08/2022	30/08/2022
pH	pH Units		Inorg-001	[NT]	1	7.4	7.4	0	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1700	1700	0	102	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	6.2	6.7	8	90	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	10	[NT]		109	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	1100	1100	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.6	1.6	0	91	94
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.55	0.56	2	104	126
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.18	0.19	5	105	118
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	114	124
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	105	105
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	304302-2
Date prepared	-			31/08/2022	1	31/08/2022	31/08/2022		31/08/2022	31/08/2022
Date analysed	-			31/08/2022	1	31/08/2022	31/08/2022		31/08/2022	31/08/2022
Aluminium-Total	µg/L	10	Metals-022	<10	1	330	320	3	96	#
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	101	105
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	99	104
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	100	102
Cobalt-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	99	98
Copper-Total	µg/L	1	Metals-022	<1	1	5	5	0	100	94
Iron-Total	µg/L	10	Metals-022	<10	1	480	500	4	104	#
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	97	95
Manganese-Total	µg/L	5	Metals-022	<5	1	53	54	2	102	104
Nickel-Total	µg/L	1	Metals-022	<1	1	1	1	0	98	95
Lead-Total	µg/L	1	Metals-022	<1	1	1	1	0	96	92
Zinc-Total	µg/L	1	Metals-022	<1	1	95	97	2	103	93

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			01/09/2022	1	01/09/2022	01/09/2022		01/09/2022	[NT]
Date analysed	-			01/09/2022	1	01/09/2022	01/09/2022		01/09/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.09	0.09	0	100	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 304993

Client Details

Client	Gamuda Australia and Laing O'Rourke Consortium
Attention	David Windnagel
Address	Sydney Metro Western Tunnelling Package, NSW

Sample Details

Your Reference	**WTP - Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	06/09/2022
Date completed instructions received	06/09/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	13/09/2022
Date of Issue	13/09/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Diego Bigolin, Inorganics Supervisor
Jaimie Loa-Kum-Cheung, Senior Chemist
Kyle Gavrily, Senior Chemist
Loren Bardwell, Development Chemist
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Authorised By

Nancy Zhang, Laboratory Manager

PFAS in Waters Extended						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Date analysed	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.05	0.03	0.02	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.01	0.01	<0.01	0.01	0.01
Perfluoroheptanoic acid	µg/L	<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
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	95	104	100	100	100
Surrogate $^{13}C_2$ PFOA	%	101	101	105	104	96
Extracted ISTD $^{13}C_3$ PFBS	%	104	97	99	98	98
Extracted ISTD $^{18}O_2$ PFHxS	%	87	90	92	89	89
Extracted ISTD $^{13}C_4$ PFOS	%	110	97	99	103	103
Extracted ISTD $^{13}C_4$ PFBA	%	120	91	97	107	107

PFAS in Waters Extended						
Our Reference	UNITS	304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference		SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	98	83	79	96	97
Extracted ISTD $^{13}C_2$ *PFHxA*	%	98	88	86	97	98
Extracted ISTD $^{13}C_4$ *PFHpA*	%	100	92	91	100	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	95	93	103	105
Extracted ISTD $^{13}C_5$ *PFNA*	%	101	96	95	103	106
Extracted ISTD $^{13}C_2$ *PFDA*	%	107	101	97	108	105
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	104	103	101	105	109
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	101	101	98	105	104
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	64	80	89	86	81
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	101	52	47	99	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	101	56	53	105	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	121	77	73	125	128
Extracted ISTD $^{13}C_8$ *FOSA*	%	105	106	105	106	109
Extracted ISTD d_3 *N MeFOSA*	%	105	101	101	103	104
Extracted ISTD d_5 *N EtFOSA*	%	108	109	109	105	110
Extracted ISTD d_7 *N MeFOSE*	%	99	101	97	99	99
Extracted ISTD d_9 *N EtFOSE*	%	97	96	96	97	99
Extracted ISTD d_3 *N MeFOSAA*	%	102	67	61	104	109
Extracted ISTD d_5 *N EtFOSAA*	%	108	75	68	111	117
Total Positive PFHxS & PFOS	µg/L	0.05	0.04	0.02	0.02	0.02
Total Positive PFOA & PFOS	µg/L	0.05	0.03	0.02	0.03	0.02
Total Positive PFAS	µg/L	0.06	0.05	0.02	0.04	0.03

PFAS in Waters Extended					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Date analysed	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.02	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	0.02
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	101	109	108	103
Surrogate $^{13}C_2$ *PFOA*	%	102	104	98	98
Extracted ISTD $^{13}C_3$ *PFBS*	%	89	98	90	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89	94	89	91
Extracted ISTD $^{13}C_4$ *PFOS*	%	98	100	94	99
Extracted ISTD $^{13}C_4$ *PFBA*	%	103	107	106	113

PFAS in Waters Extended					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	75	96	83	94
Extracted ISTD $^{13}C_2$ *PFHxA*	%	78	97	91	95
Extracted ISTD $^{13}C_4$ *PFHpA*	%	87	102	89	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	104	96	101
Extracted ISTD $^{13}C_5$ *PFNA*	%	91	103	95	99
Extracted ISTD $^{13}C_2$ *PFDA*	%	95	110	98	96
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	96	107	95	100
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	92	104	90	95
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	83	81	59	80
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	43	98	57	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	48	105	61	98
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	61	122	78	119
Extracted ISTD $^{13}C_8$ *FOSA*	%	103	110	102	103
Extracted ISTD d_3 *N MeFOSA*	%	100	104	99	100
Extracted ISTD d_5 *N EtFOSA*	%	110	109	107	105
Extracted ISTD d_7 *N MeFOSE*	%	98	102	96	99
Extracted ISTD d_9 *N EtFOSE*	%	92	98	93	94
Extracted ISTD d_3 *N MeFOSAA*	%	56	99	73	96
Extracted ISTD d_5 *N EtFOSAA*	%	62	109	74	104
Total Positive PFHxS & PFOS	µg/L	0.01	0.02	0.02	0.03
Total Positive PFOA & PFOS	µg/L	0.01	0.02	0.02	0.04
Total Positive PFAS	µg/L	0.01	0.02	0.02	0.08

vTRH(C6-C10)/BTEXN in Water						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	08/09/2022	08/09/2022	08/09/2022	08/09/2022	08/09/2022
Date analysed	-	09/09/2022	09/09/2022	09/09/2022	09/09/2022	09/09/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	106	106	100	101	100
Surrogate toluene-d8	%	93	95	95	95	95
Surrogate 4-BFB	%	107	100	101	97	100

vTRH(C6-C10)/BTEXN in Water					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	08/09/2022	08/09/2022	08/09/2022	08/09/2022
Date analysed	-	09/09/2022	09/09/2022	09/09/2022	09/09/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	106	102	100	101
Surrogate toluene-d8	%	94	96	95	95
Surrogate 4-BFB	%	98	100	97	100

svTRH (C10-C40) in Water						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/09/2022	12/09/2022	12/09/2022	12/09/2022	12/09/2022
Date analysed	-	13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	79	78	83	83	75

svTRH (C10-C40) in Water					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	12/09/2022	12/09/2022	12/09/2022	12/09/2022
Date analysed	-	13/09/2022	13/09/2022	13/09/2022	13/09/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	109	92	97	99

PAHs in Water						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/09/2022	12/09/2022	12/09/2022	12/09/2022	12/09/2022
Date analysed	-	13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	110	80	88	79	87

PAHs in Water					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	12/09/2022	12/09/2022	12/09/2022	12/09/2022
Date analysed	-	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	76	102	102

Miscellaneous Inorganics						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Date analysed	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
pH	pH Units	7.7	7.5	7.4	7.5	7.5
Electrical Conductivity	µS/cm	840	6,900	9,800	300	290
Turbidity	NTU	6.2	4.7	9.4	8.5	16
Total Suspended Solids	mg/L	<50	<10	<10	17	18
Salinity as NaCl *	mg/L	540	4,400	6,300	190	180
Total Nitrogen in water	mg/L	1.1	1.1	1.0	0.9	1.0
NOx as N in water	mg/L	0.54	0.52	0.3	0.5	0.4
Ammonia as N in water	mg/L	0.044	0.064	0.11	0.039	0.15
Phosphate as P in water	mg/L	0.02	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Date analysed	-	06/09/2022	06/09/2022	06/09/2022	06/09/2022
pH	pH Units	7.6	7.7	7.4	7.7
Electrical Conductivity	µS/cm	16,000	470	5,700	810
Turbidity	NTU	7.6	3.8	8.7	6.2
Total Suspended Solids	mg/L	17	<10	12	<10
Salinity as NaCl *	mg/L	10,000	300	3,600	520
Total Nitrogen in water	mg/L	0.6	0.7	1.2	1.5
NOx as N in water	mg/L	0.2	0.4	0.5	1.1
Ammonia as N in water	mg/L	0.097	<0.005	0.098	0.31
Phosphate as P in water	mg/L	<0.005	0.007	<0.005	<0.005
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005

All metals in water-dissolved						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	09/09/2022	09/09/2022	09/09/2022	09/09/2022	09/09/2022
Date analysed	-	09/09/2022	09/09/2022	09/09/2022	09/09/2022	09/09/2022
Aluminium-Dissolved	µg/L	80	50	20	230	170
Arsenic-Dissolved	µg/L	1	1	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	3	4	4	3	2
Iron-Dissolved	µg/L	170	110	60	330	300
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	35	30	35	29	29
Nickel-Dissolved	µg/L	<1	1	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	22	36	54	17	14

All metals in water-dissolved					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	09/09/2022	09/09/2022	09/09/2022	09/09/2022
Date analysed	-	09/09/2022	09/09/2022	09/09/2022	09/09/2022
Aluminium-Dissolved	µg/L	40	70	40	70
Arsenic-Dissolved	µg/L	<1	<1	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	3	3	4
Iron-Dissolved	µg/L	100	300	100	140
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	54	29	37	120
Nickel-Dissolved	µg/L	1	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	26	16	31	28

All metals in water - total						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Date analysed	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Aluminium-Total	µg/L	450	930	430	710	720
Arsenic-Total	µg/L	1	19	1	<1	<1
Cadmium-Total	µg/L	<0.1	0.4	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	7	1	1	<1
Cobalt-Total	µg/L	<1	3	<1	<1	<1
Copper-Total	µg/L	6	61	6	5	4
Iron-Total	µg/L	500	5,600	550	870	800
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	37	50	39	43	43
Nickel-Total	µg/L	1	4	2	2	<1
Lead-Total	µg/L	2	14	3	2	2
Zinc-Total	µg/L	56	210	83	36	32

All metals in water - total					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Date analysed	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Aluminium-Total	µg/L	570	250	580	510
Arsenic-Total	µg/L	1	<1	1	2
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	1	<1	<1	1
Cobalt-Total	µg/L	<1	<1	<1	<1
Copper-Total	µg/L	4	3	4	6
Iron-Total	µg/L	790	540	640	530
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	71	32	40	140
Nickel-Total	µg/L	2	<1	<1	2
Lead-Total	µg/L	2	1	4	2
Zinc-Total	µg/L	50	21	49	78

Metals in Waters - Acid extractable						
Our Reference		304993-1	304993-2	304993-3	304993-4	304993-5
Your Reference	UNITS	SW01-WTP	SW02-WTP	SW03-WTP	SW04-WTP	SW05-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Date analysed	-	08/09/2022	08/09/2022	08/09/2022	08/09/2022	08/09/2022
Phosphorus - Total	mg/L	0.1	0.09	0.08	0.07	0.06

Metals in Waters - Acid extractable					
Our Reference		304993-6	304993-7	304993-8	304993-9
Your Reference	UNITS	SW06-WTP	SW07-WTP	SW08-WTP	SW09-WTP
Date Sampled		06/09/2022	06/09/2022	06/09/2022	06/09/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	07/09/2022	07/09/2022	07/09/2022	07/09/2022
Date analysed	-	08/09/2022	08/09/2022	08/09/2022	08/09/2022
Phosphorus - Total	mg/L	0.08	0.07	0.07	<0.05

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	304993-2
Date prepared	-			07/09/2022	1	07/09/2022	07/09/2022		07/09/2022	07/09/2022
Date analysed	-			07/09/2022	1	07/09/2022	07/09/2022		07/09/2022	07/09/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	0.01	0	101	96
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	108	104
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	106	101
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	117	110
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.05	0.05	0	103	95
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	108
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	93
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	95
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	96	91
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	99
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	93	92
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	100
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	99
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	101
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	101	101
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	82	81
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	100	101
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	104
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	92	90
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	94
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	102
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	100	95
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	100	96
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	93	90
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	97	94
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	102	109
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	102	99
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	90
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	99	1	95	102	7	101	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	102	1	101	104	3	99	104

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	304993-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	93	1	104	97	7	95	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	88	1	87	90	3	87	89
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	102	1	110	105	5	98	97
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	104	1	120	122	2	107	93
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	97	1	98	97	1	94	82
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	97	1	98	97	1	95	88
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	96	1	100	99	1	97	89
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	102	1	104	103	1	101	91
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	103	1	101	104	3	100	88
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	104	1	107	110	3	108	91
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	104	1	104	111	7	102	93
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	102	1	101	105	4	101	85
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	68	1	64	87	30	79	64
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	97	1	101	99	2	93	51
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	108	1	101	102	1	110	60
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	129	1	121	131	8	123	74
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	106	1	105	108	3	101	94
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	99	1	105	108	3	97	95
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	106	1	108	111	3	102	103
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	97	1	99	103	4	98	92

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	304993-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	98	1	97	101	4	95	87
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	112	1	102	105	3	106	65
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	114	1	108	109	1	109	74

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			08/09/2022	1	08/09/2022	08/09/2022		08/09/2022	[NT]
Date analysed	-			09/09/2022	1	09/09/2022	09/09/2022		09/09/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	117	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	117	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	112	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	120	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	119	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	117	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	120	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	106	1	106	120	12	99	[NT]
Surrogate toluene-d8	%		Org-023	96	1	93	93	0	101	[NT]
Surrogate 4-BFB	%		Org-023	106	1	107	107	0	101	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			12/09/2022	1	12/09/2022	12/09/2022		12/09/2022	[NT]
Date analysed	-			13/09/2022	1	13/09/2022	13/09/2022		13/09/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	82	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	88	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	82	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	88	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
Surrogate o-Terphenyl	%		Org-020	95	1	79	84	6	85	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			12/09/2022	1	12/09/2022	12/09/2022		12/09/2022	[NT]
Date analysed	-			13/09/2022	1	13/09/2022	13/09/2022		13/09/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	75	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	98	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	87	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	79	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	88	1	110	84	27	82	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304993-2
Date prepared	-			06/09/2022	1	06/09/2022	06/09/2022		06/09/2022	06/09/2022
Date analysed	-			06/09/2022	1	06/09/2022	06/09/2022		06/09/2022	06/09/2022
pH	pH Units		Inorg-001	[NT]	1	7.7	7.8	1	101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	840	840	0	99	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	6.2	6.7	8	90	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	<50	[NT]		102	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	540	540	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.1	1.1	0	104	111
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.54	0.56	4	103	112
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.044	0.050	13	93	105
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.02	0.02	0	117	93
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	100	105
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	
Date prepared	-			09/09/2022	1	09/09/2022	09/09/2022		09/09/2022	[NT]
Date analysed	-			09/09/2022	1	09/09/2022	09/09/2022		09/09/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	80	80	0	101	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	103	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	101	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	101	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	3	3	0	102	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	170	160	6	105	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	104	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	35	35	0	101	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	100	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	96	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	22	23	4	101	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	304993-2
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	09/09/2022
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	09/09/2022
Aluminium-Dissolved	µg/L	10	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	119
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	104
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	103
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
Cobalt-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	96
Copper-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	92
Iron-Dissolved	µg/L	10	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	89
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	83
Manganese-Dissolved	µg/L	5	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	97
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	91
Lead-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	88
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	97

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304993-2
Date prepared	-			07/09/2022	1	07/09/2022	07/09/2022		07/09/2022	07/09/2022
Date analysed	-			07/09/2022	1	07/09/2022	07/09/2022		07/09/2022	07/09/2022
Aluminium-Total	µg/L	10	Metals-022	<10	1	450	450	0	96	#
Arsenic-Total	µg/L	1	Metals-022	<1	1	1	1	0	98	107
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	97	108
Chromium-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	95	100
Cobalt-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	94	96
Copper-Total	µg/L	1	Metals-022	<1	1	6	6	0	92	91
Iron-Total	µg/L	10	Metals-022	<10	1	500	510	2	102	#
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	98
Manganese-Total	µg/L	5	Metals-022	<5	1	37	38	3	96	104
Nickel-Total	µg/L	1	Metals-022	<1	1	1	1	0	95	96
Lead-Total	µg/L	1	Metals-022	<1	1	2	2	0	95	91
Zinc-Total	µg/L	1	Metals-022	<1	1	56	56	0	96	#

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	304993-2
Date prepared	-			07/09/2022	1	07/09/2022	07/09/2022		07/09/2022	07/09/2022
Date analysed	-			08/09/2022	1	08/09/2022	08/09/2022		08/09/2022	08/09/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.1	0.1	0	105	104

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

PFAS: For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Total Suspended Solids - PQL has been raised due to the small volume of sample supplied.

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CERTIFICATE OF ANALYSIS 307850

Client Details

Client	Gamuda Australia and Laing O'Rourke Consortium
Attention	Josephine Balado
Address	Sydney Metro Western Tunnelling Package, NSW

Sample Details

Your Reference	**WTP - Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	12/10/2022
Date completed instructions received	12/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	19/10/2022
Date of Issue	19/10/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Hannah Nguyen, Metals Supervisor
Kyle Gavrily, Senior Chemist
Loren Bardwell, Development Chemist
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

PFAS in Waters Extended						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Perfluorobutanesulfonic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	0.02	0.02	0.02	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.07	0.02	0.02	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.02	0.01	0.02	0.01	<0.01
Perfluoroheptanoic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.02	0.02	0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	91	93	100	93	96
Surrogate $^{13}C_2$ *PFOA*	%	102	98	96	98	107
Extracted ISTD $^{13}C_3$ *PFBS*	%	97	99	93	98	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101	101	94	97	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	111	102	96	106	101
Extracted ISTD $^{13}C_4$ *PFBA*	%	97	83	99	105	91

PFAS in Waters Extended						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	88	79	93	94	78
Extracted ISTD $^{13}C_2$ *PFHxA*	%	97	87	97	97	91
Extracted ISTD $^{13}C_4$ *PFHpA*	%	95	91	99	99	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	101	109	107	92
Extracted ISTD $^{13}C_5$ *PFNA*	%	102	95	101	103	95
Extracted ISTD $^{13}C_2$ *PFDA*	%	100	97	103	101	97
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	99	93	100	98	95
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	100	91	101	104	100
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	86	72	89	92	80
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	93	56	104	99	56
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	90	60	105	120	59
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	67	104	106	69
Extracted ISTD $^{13}C_8$ *FOSA*	%	103	100	105	104	98
Extracted ISTD d_3 *N MeFOSA*	%	100	99	101	100	96
Extracted ISTD d_5 *N EtFOSA*	%	108	102	104	103	96
Extracted ISTD d_7 *N MeFOSE*	%	99	91	97	99	98
Extracted ISTD d_9 *N EtFOSE*	%	98	96	99	100	96
Extracted ISTD d_3 *N MeFOSAA*	%	93	69	102	109	69
Extracted ISTD d_5 *N EtFOSAA*	%	90	69	96	104	68
Total Positive PFHxS & PFOS	µg/L	0.11	0.04	0.04	0.04	0.02
Total Positive PFOA & PFOS	µg/L	0.09	0.05	0.03	0.02	0.02
Total Positive PFAS	µg/L	0.19	0.08	0.06	0.05	0.02

PFAS in Waters Extended					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	0.02	0.03	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.05	0.08	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	0.01	0.03	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.01	0.01	0.02	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	90	94	91	93
Surrogate $^{13}C_2$ *PFOA*	%	98	103	92	102
Extracted ISTD $^{13}C_3$ *PFBS*	%	100	92	92	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	99	97	96
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	102	103	103
Extracted ISTD $^{13}C_4$ *PFBA*	%	115	100	110	111

PFAS in Waters Extended					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	88	86	87	92
Extracted ISTD $^{13}C_2$ *PFHxA*	%	98	95	96	99
Extracted ISTD $^{13}C_4$ *PFHpA*	%	96	94	95	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	103	111	106
Extracted ISTD $^{13}C_5$ *PFNA*	%	99	100	101	102
Extracted ISTD $^{13}C_2$ *PFDA*	%	101	99	100	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	97	100	101	102
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	103	102	107	109
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	88	88	88	90
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	99	82	92	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	106	90	104	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	107	100	109	118
Extracted ISTD $^{13}C_8$ *FOSA*	%	106	103	104	105
Extracted ISTD d_3 *N MeFOSA*	%	103	102	104	106
Extracted ISTD d_5 *N EtFOSA*	%	103	103	103	99
Extracted ISTD d_7 *N MeFOSE*	%	98	100	102	99
Extracted ISTD d_9 *N EtFOSE*	%	101	99	105	103
Extracted ISTD d_3 *N MeFOSAA*	%	106	93	101	110
Extracted ISTD d_5 *N EtFOSAA*	%	100	88	89	99
Total Positive PFHxS & PFOS	μg/L	0.04	0.08	0.11	<0.01
Total Positive PFOA & PFOS	μg/L	0.03	0.07	0.09	<0.01
Total Positive PFAS	μg/L	0.05	0.1	0.17	<0.01

vTRH(C6-C10)/BTEXN in Water						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022	15/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	103	99	102	107	101
Surrogate toluene-d8	%	115	101	101	105	118
Surrogate 4-BFB	%	83	94	92	92	91

vTRH(C6-C10)/BTEXN in Water					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	2	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	101	104	101	90
Surrogate toluene-d8	%	101	101	101	99
Surrogate 4-BFB	%	82	92	91	94

svTRH (C10-C40) in Water						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	86	78	79	80	88

svTRH (C10-C40) in Water					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	76	82	83	80

PAHs in Water						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	90	90	88	98

PAHs in Water					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	94	91	88

Miscellaneous Inorganics						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
pH	pH Units	8.0	7.4	7.8	7.8	7.6
Electrical Conductivity	µS/cm	1,400	7,400	380	370	7,400
Turbidity	NTU	14	19	47	43	27
Total Suspended Solids	mg/L	13	22	36	33	25
Salinity as NaCl *	mg/L	870	4,700	240	240	4,700
Total Nitrogen in water	mg/L	2.0	1.9	1.5	1.7	1.7
NOx as N in water	mg/L	1.5	0.81	1.0	0.74	0.59
Ammonia as N in water	mg/L	0.14	0.39	0.19	0.19	0.41
Phosphate as P in water	mg/L	0.009	0.074	0.01	0.02	0.02
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022
pH	pH Units	8.2	7.9	8.1	8.0
Electrical Conductivity	µS/cm	720	2,100	1,500	230
Turbidity	NTU	11	26	11	400
Total Suspended Solids	mg/L	10	25	12	290
Salinity as NaCl *	mg/L	460	1,300	980	150
Total Nitrogen in water	mg/L	2.0	2.3	2.0	5.0
NOx as N in water	mg/L	0.4	0.95	1.6	4.8
Ammonia as N in water	mg/L	0.029	0.20	0.20	0.017
Phosphate as P in water	mg/L	0.01	0.03	0.008	<0.005
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005

All metals in water-dissolved						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Aluminium-Dissolved	µg/L	70	150	290	270	180
Arsenic-Dissolved	µg/L	1	2	1	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	2	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	4	4	4	4	3
Iron-Dissolved	µg/L	120	200	520	540	310
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	31	44	43	33	86
Nickel-Dissolved	µg/L	2	1	1	1	1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	32	23	15	18	19

All metals in water-dissolved					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Aluminium-Dissolved	µg/L	100	220	60	10
Arsenic-Dissolved	µg/L	<1	2	2	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	3	2
Cobalt-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	3	5	4	1
Iron-Dissolved	µg/L	240	350	100	10
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	53	36	54	<5
Nickel-Dissolved	µg/L	2	2	2	<1
Lead-Dissolved	µg/L	<1	1	<1	<1
Zinc-Dissolved	µg/L	15	35	37	<1

All metals in water - total						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Aluminium-Total	µg/L	250	410	580	480	420
Arsenic-Total	µg/L	<1	<1	<1	<1	<1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	1	<1	<1	<1	<1
Cobalt-Total	µg/L	<1	<1	<1	<1	<1
Copper-Total	µg/L	3	2	3	2	2
Iron-Total	µg/L	260	360	790	670	450
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	31	50	52	26	110
Nickel-Total	µg/L	<1	<1	<1	<1	<1
Lead-Total	µg/L	<1	1	2	1	1
Zinc-Total	µg/L	25	18	19	13	15

All metals in water - total					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Aluminium-Total	µg/L	260	400	210	7,100
Arsenic-Total	µg/L	<1	1	<1	1
Cadmium-Total	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Total	µg/L	<1	<1	2	4
Cobalt-Total	µg/L	<1	<1	<1	2
Copper-Total	µg/L	2	3	2	5
Iron-Total	µg/L	410	470	290	4,500
Mercury-Total	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Total	µg/L	56	40	55	60
Nickel-Total	µg/L	<1	<1	<1	1
Lead-Total	µg/L	1	2	<1	34
Zinc-Total	µg/L	16	26	20	30

Metals in Waters - Acid extractable						
Our Reference		307850-1	307850-2	307850-3	307850-4	307850-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Phosphorus - Total	mg/L	0.1	0.2	0.1	0.1	0.1

Metals in Waters - Acid extractable					
Our Reference		307850-6	307850-7	307850-8	307850-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	Parramatta
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Phosphorus - Total	mg/L	0.08	0.1	0.1	0.3

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.02	67	100	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	101	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.03	0.04	29	96	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.07	0.08	13	102	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	84	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	102	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	0.02	0.02	0	101	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	100	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	<0.01	0	100	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	98	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	94	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	97	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	92	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	100	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	97	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	103	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	104	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	92	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	104	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	96	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	102	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	94	1	91	95	4	99	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	1	102	102	0	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	1	97	102	5	96	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	97	1	101	97	4	96	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	107	1	111	101	9	98	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	101	1	97	100	3	102	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	100	1	88	90	2	93	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	99	1	97	96	1	96	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	101	1	95	99	4	99	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	103	1	103	101	2	101	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	103	1	102	101	1	100	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	100	1	100	101	1	105	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	101	1	99	101	2	96	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	106	1	100	99	1	99	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	96	1	86	86	0	89	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	103	1	93	96	3	100	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	110	1	90	97	7	108	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	107	1	93	96	3	116	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	109	1	103	101	2	102	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	103	1	100	104	4	98	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	103	1	108	104	4	101	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	101	1	99	100	1	97	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	103	1	98	98	0	97	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	113	1	93	93	0	109	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	103	1	90	99	10	105	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	[NT]
Date extracted	-			14/10/2022	1	14/10/2022	17/10/2022		14/10/2022	[NT]
Date analysed	-			15/10/2022	1	15/10/2022	18/10/2022		15/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	98	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	98	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	114	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	89	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	103	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	102	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	1	103	106	3	94	[NT]
Surrogate toluene-d8	%		Org-023	102	1	115	99	15	81	[NT]
Surrogate 4-BFB	%		Org-023	87	1	83	106	24	81	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	8	14/10/2022	18/10/2022		[NT]	[NT]
Date analysed	-			[NT]	8	15/10/2022	19/10/2022		[NT]	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	[NT]	8	<10	<10	0	[NT]	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	[NT]	8	<10	<10	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	8	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	8	2	1	67	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	8	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	8	<2	<2	0	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	8	<1	<1	0	[NT]	[NT]
Naphthalene	µg/L	1	Org-023	[NT]	8	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	8	101	103	2	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	8	101	101	0	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	8	91	100	9	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	85	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	95	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	85	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	95	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	112	1	86	80	7	127	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			19/10/2022	1	19/10/2022	19/10/2022		19/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	101	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	107	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	113	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	118	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	118	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	125	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	123	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	118	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	101	1	100	93	7	100	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307850-2
Date prepared	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
pH	pH Units		Inorg-001	[NT]	1	8.0	8.1	1	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1400	1300	7	101	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	14	14	0	98	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	13	[NT]		98	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	870	860	1	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	2.0	2.0	0	101	73
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	1.5	1.6	6	99	107
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.14	0.14	0	105	105
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.009	0.009	0	96	89
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	18/10/2022	18/10/2022
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	[NT]
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	70	70	0	98	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	95	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	96	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	92	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	88	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	4	4	0	93	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	120	120	0	92	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	106	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	31	31	0	92	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	92	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	97	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	32	32	0	93	[NT]

QUALITY CONTROL: All metals in water - total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307850-2
Date prepared	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Aluminium-Total	µg/L	10	Metals-022	<10	1	250	230	8	84	#
Arsenic-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	103	118
Cadmium-Total	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	100	119
Chromium-Total	µg/L	1	Metals-022	<1	1	1	1	0	98	109
Cobalt-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	95	105
Copper-Total	µg/L	1	Metals-022	<1	1	3	4	29	102	111
Iron-Total	µg/L	10	Metals-022	<10	1	260	250	4	99	#
Mercury-Total	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	110	110
Manganese-Total	µg/L	5	Metals-022	<5	1	31	33	6	96	105
Nickel-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	101	114
Lead-Total	µg/L	1	Metals-022	<1	1	<1	<1	0	100	109
Zinc-Total	µg/L	1	Metals-022	<1	1	25	29	15	102	119

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307850-3
Date prepared	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Date analysed	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	18/10/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.1	0.1	0	105	87

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Dissolved Metals: no filtered, preserved sample was received for #9, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

All metals in water - total - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

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CERTIFICATE OF ANALYSIS 311823

Client Details

Client	Gamuda Australia and Laing O'Rourke Consortium
Attention	David Windnagel
Address	Sydney Metro Western Tunnelling Package, NSW

Sample Details

Your Reference	**WTP - Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	28/11/2022
Date completed instructions received	29/11/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	06/12/2022
Date of Issue	06/12/2022

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Results Approved By
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Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/12/2022	02/12/2022	02/12/2022	02/12/2022	02/12/2022
Date analysed	-	02/12/2022	02/12/2022	02/12/2022	02/12/2022	02/12/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	100	102	106	101	103
Surrogate toluene-d8	%	100	101	97	97	101
Surrogate 4-BFB	%	99	99	99	99	103

vTRH(C6-C10)/BTEXN in Water					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	02/12/2022	02/12/2022	02/12/2022	02/12/2022
Date analysed	-	02/12/2022	02/12/2022	02/12/2022	02/12/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	100	103	100	100
Surrogate toluene-d8	%	99	101	98	100
Surrogate 4-BFB	%	100	103	101	98

svTRH (C10-C40) in Water						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Date analysed	-	01/12/2022	01/12/2022	01/12/2022	01/12/2022	01/12/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	73	74	74	73	72

svTRH (C10-C40) in Water					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Date analysed	-	01/12/2022	01/12/2022	01/12/2022	01/12/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	76	68	82	78

PAHs in Water						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Date analysed	-	02/12/2022	02/12/2022	02/12/2022	02/12/2022	02/12/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	89	86	70	85	84

PAHs in Water					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Date analysed	-	02/12/2022	02/12/2022	02/12/2022	02/12/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	74	80	80	62

Miscellaneous Inorganics						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	29/11/2022	29/11/2022	29/11/2022	29/11/2022	29/11/2022
Date analysed	-	29/11/2022	29/11/2022	29/11/2022	29/11/2022	29/11/2022
pH	pH Units	7.0	7.2	7.4	7.7	7.7
Electrical Conductivity	µS/cm	1,200	2,200	26,000	810	820
Turbidity	NTU	2.4	5.4	3.3	3.5	24
Total Suspended Solids	mg/L	9	16	8	17	29
Salinity as NaCl *	mg/L	770	1,400	16,000	510	520
Total Nitrogen in water	mg/L	0.9	0.9	0.6	0.5	0.3
NOx as N in water	mg/L	0.5	0.3	0.1	0.09	0.1
Ammonia as N in water	mg/L	0.005	0.067	0.046	0.01	<0.005
Phosphate as P in water	mg/L	0.03	0.05	0.04	<0.005	<0.005
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	29/11/2022	29/11/2022	29/11/2022	29/11/2022
Date analysed	-	29/11/2022	29/11/2022	29/11/2022	29/11/2022
pH	pH Units	7.6	7.6	7.5	7.4
Electrical Conductivity	µS/cm	12,000	400	6,800	470
Turbidity	NTU	4.3	2.8	5.0	1.9
Total Suspended Solids	mg/L	14	6	9	10
Salinity as NaCl *	mg/L	7,700	260	4,300	300
Total Nitrogen in water	mg/L	0.6	0.6	0.8	1
NOx as N in water	mg/L	0.05	0.2	0.1	0.55
Ammonia as N in water	mg/L	0.045	<0.005	0.18	<0.005
Phosphate as P in water	mg/L	0.01	0.058	0.02	0.04
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005

All metals in water-dissolved						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Date analysed	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Aluminium-Dissolved	µg/L	<10	<10	<10	<10	10
Arsenic-Dissolved	µg/L	<1	<1	1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	1	2	2	2	2
Iron-Dissolved	µg/L	40	40	20	150	160
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	43	40	96	<5	11
Nickel-Dissolved	µg/L	<1	<1	1	1	1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	54	29	28	8	8

All metals in water-dissolved					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Date analysed	-	30/11/2022	30/11/2022	30/11/2022	30/11/2022
Aluminium-Dissolved	µg/L	<10	20	<10	<10
Arsenic-Dissolved	µg/L	<1	<1	1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	1	3	1	3
Iron-Dissolved	µg/L	60	140	50	20
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	110	<5	140	<5
Nickel-Dissolved	µg/L	1	1	1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	14	13	17	29

Metals in Waters - Acid extractable						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/12/2022	01/12/2022	01/12/2022	01/12/2022	01/12/2022
Date analysed	-	01/12/2022	01/12/2022	01/12/2022	01/12/2022	01/12/2022
Phosphorus - Total	mg/L	0.2	0.1	0.1	0.07	0.07

Metals in Waters - Acid extractable					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	01/12/2022	01/12/2022	01/12/2022	01/12/2022
Date analysed	-	01/12/2022	01/12/2022	01/12/2022	01/12/2022
Phosphorus - Total	mg/L	0.09	0.1	0.1	0.1

PFAS in Waters Extended						
Our Reference		311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/12/2022	05/12/2022	05/12/2022	05/12/2022	05/12/2022
Date analysed	-	05/12/2022	05/12/2022	05/12/2022	05/12/2022	05/12/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.01	0.02	0.02
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.04	0.02	0.03	0.03
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	0.02	0.02
Perfluorohexanoic acid	µg/L	0.01	0.02	0.01	0.03	0.03
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.01	0.02	0.02
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	99	100	98	96	97
Surrogate $^{13}C_2$ *PFOA*	%	105	105	103	106	107
Extracted ISTD $^{13}C_3$ *PFBS*	%	88	88	86	89	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	84	86	88	87	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	89	96	88	96	96
Extracted ISTD $^{13}C_4$ *PFBA*	%	89	88	70	86	88

PFAS in Waters Extended						
Our Reference	UNITS	311823-1	311823-2	311823-3	311823-4	311823-5
Your Reference		SW01	SW02	SW03	SW04	SW05
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	85	83	70	82	85
Extracted ISTD $^{13}C_2$ *PFHxA*	%	106	105	85	107	108
Extracted ISTD $^{13}C_4$ *PFHpA*	%	92	94	81	93	94
Extracted ISTD $^{13}C_4$ *PFOA*	%	91	96	87	95	93
Extracted ISTD $^{13}C_5$ *PFNA*	%	86	98	86	97	96
Extracted ISTD $^{13}C_2$ *PFDA*	%	77	101	84	100	97
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	69	106	88	104	93
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	47	101	82	96	76
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	#	62	37	48	39
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	100	88	52	102	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	102	98	50	104	102
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	98	111	63	122	118
Extracted ISTD $^{13}C_8$ *FOSA*	%	84	98	87	97	94
Extracted ISTD d_3 *N MeFOSA*	%	100	106	97	102	103
Extracted ISTD d_5 *N EtFOSA*	%	102	108	100	108	106
Extracted ISTD d_7 *N MeFOSE*	%	79	89	79	89	89
Extracted ISTD d_9 *N EtFOSE*	%	83	97	89	95	93
Extracted ISTD d_3 *N MeFOSAA*	%	80	92	43	98	93
Extracted ISTD d_5 *N EtFOSAA*	%	81	97	48	103	100
Total Positive PFHxS & PFOS	µg/L	<0.01	0.04	0.03	0.05	0.05
Total Positive PFOA & PFOS	µg/L	<0.01	0.04	0.03	0.04	0.04
Total Positive PFAS	µg/L	0.01	0.06	0.05	0.12	0.13

PFAS in Waters Extended					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	05/12/2022	05/12/2022	05/12/2022	05/12/2022
Date analysed	-	05/12/2022	05/12/2022	05/12/2022	05/12/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.02	<0.01	0.02	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.01	0.03	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.03	<0.01	0.01	0.03
Perfluoroheptanoic acid	µg/L	0.01	<0.01	<0.01	0.02
Perfluorooctanoic acid PFOA	µg/L	0.01	<0.01	0.01	0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	97	97	98	95
Surrogate $^{13}C_2$ *PFOA*	%	107	103	104	105
Extracted ISTD $^{13}C_3$ *PFBS*	%	90	90	91	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	86	85	87
Extracted ISTD $^{13}C_4$ *PFOS*	%	93	94	88	101
Extracted ISTD $^{13}C_4$ *PFBA*	%	78	86	80	89

PFAS in Waters Extended					
Our Reference		311823-6	311823-7	311823-8	311823-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		28/11/2022	28/11/2022	28/11/2022	28/11/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	74	84	76	84
Extracted ISTD $^{13}C_2$ *PFHxA*	%	92	105	96	105
Extracted ISTD $^{13}C_4$ *PFHpA*	%	85	94	87	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	97	90	95
Extracted ISTD $^{13}C_5$ *PFNA*	%	87	93	85	99
Extracted ISTD $^{13}C_2$ *PFDA*	%	86	91	76	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	92	84	63	107
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	78	58	44	88
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	44	#	#	30
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	51	100	61	108
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	56	107	63	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	72	114	73	126
Extracted ISTD $^{13}C_8$ *FOSA*	%	90	89	85	96
Extracted ISTD d_3 *N MeFOSA*	%	102	101	98	102
Extracted ISTD d_5 *N EtFOSA*	%	107	102	102	107
Extracted ISTD d_7 *N MeFOSE*	%	84	83	81	89
Extracted ISTD d_9 *N EtFOSE*	%	91	87	84	96
Extracted ISTD d_3 *N MeFOSAA*	%	53	88	54	99
Extracted ISTD d_5 *N EtFOSAA*	%	58	92	57	106
Total Positive PFHxS & PFOS	µg/L	0.04	0.01	0.04	<0.01
Total Positive PFOA & PFOS	µg/L	0.03	0.01	0.04	0.01
Total Positive PFAS	µg/L	0.09	0.01	0.07	0.06

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			02/12/2022	1	02/12/2022	05/12/2022		02/12/2022	[NT]
Date analysed	-			02/12/2022	1	02/12/2022	05/12/2022		02/12/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	119	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	119	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	119	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	119	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	118	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	117	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	118	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	1	100	105	5	99	[NT]
Surrogate toluene-d8	%		Org-023	101	1	100	99	1	102	[NT]
Surrogate 4-BFB	%		Org-023	100	1	99	101	2	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			02/12/2022	1	30/11/2022	30/11/2022		30/11/2022	[NT]
Date analysed	-			03/12/2022	1	01/12/2022	01/12/2022		01/12/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	76	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	89	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	76	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	89	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
Surrogate o-Terphenyl	%		Org-020	90	1	73	75	3	77	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	311823-2
Date extracted	-			30/11/2022	1	30/11/2022	30/11/2022		30/11/2022	30/11/2022
Date analysed	-			02/12/2022	1	02/12/2022	02/12/2022		02/12/2022	02/12/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	71	86
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	67	87
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	71	90
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	102
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	72	94
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	79	103
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	69	85
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	60	62
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	76	1	89	81	9	77	87

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	311823-2
Date prepared	-			29/11/2022	1	29/11/2022	29/11/2022		29/11/2022	29/11/2022
Date analysed	-			29/11/2022	1	29/11/2022	29/11/2022		29/11/2022	29/11/2022
pH	pH Units		Inorg-001	[NT]	1	7.0	7.0	0	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1200	1200	0	109	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	2.4	2.3	4	94	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	9	[NT]		103	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	770	760	1	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.9	0.9	0	96	87
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.5	0.5	0	111	105
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.005	<0.005	0	101	93
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.03	0.03	0	101	98
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	111	102
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	5	29/11/2022	29/11/2022		[NT]	[NT]
Date analysed	-			[NT]	5	29/11/2022	29/11/2022		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	5	7.7	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	5	820	[NT]		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	5	24	[NT]		[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	5	29	28	4	[NT]	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	[NT]	5	520	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	5	0.3	0.5	50	[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.1	0.09	11	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	5	<0.005	[NT]		[NT]	[NT]
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	[NT]	5	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	311823-2
Date prepared	-			30/11/2022	1	30/11/2022	30/11/2022		30/11/2022	30/11/2022
Date analysed	-			30/11/2022	1	30/11/2022	30/11/2022		30/11/2022	30/11/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	93	93
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	95
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	100	97
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	91
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	101	92
Copper-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	100	88
Iron-Dissolved	µg/L	10	Metals-022	<10	1	40	40	0	99	78
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	98
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	43	43	0	99	84
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	90
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	96	95
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	54	54	0	101	87

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	9	30/11/2022	30/11/2022		[NT]	[NT]
Date analysed	-			[NT]	9	30/11/2022	30/11/2022		[NT]	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	[NT]	9	<10	10	0	[NT]	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	9	<0.1	<0.1	0	[NT]	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	[NT]
Copper-Dissolved	µg/L	1	Metals-022	[NT]	9	3	3	0	[NT]	[NT]
Iron-Dissolved	µg/L	10	Metals-022	[NT]	9	20	20	0	[NT]	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	9	<0.05	[NT]		[NT]	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	[NT]	9	<5	<5	0	[NT]	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	[NT]
Lead-Dissolved	µg/L	1	Metals-022	[NT]	9	<1	<1	0	[NT]	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	9	29	30	3	[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	311823-2
Date prepared	-			01/12/2022	1	01/12/2022	01/12/2022		01/12/2022	01/12/2022
Date analysed	-			01/12/2022	1	01/12/2022	01/12/2022		01/12/2022	01/12/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.2	0.2	0	94	98

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			05/12/2022	1	05/12/2022	05/12/2022		05/12/2022	[NT]
Date analysed	-			05/12/2022	1	05/12/2022	05/12/2022		05/12/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	111	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	111	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	94	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	101	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.02	67	100	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	92	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	119	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	108	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	104	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	62	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	110	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	113	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	86	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	108	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	77	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	99	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	96	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	101	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	102	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	97	1	99	97	2	93	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	104	1	105	106	1	105	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	84	1	88	90	2	89	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	83	1	84	84	0	84	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	94	1	89	84	6	99	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	95	1	89	90	1	96	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	83	1	85	85	0	85	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	106	1	106	107	1	105	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	90	1	92	91	1	92	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	94	1	91	90	1	94	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	92	1	86	81	6	93	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	92	1	77	69	11	93	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	94	1	69	57	19	88	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	79	1	47	35	29	68	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	33	1	#	#		#	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	99	1	100	98	2	95	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	100	1	102	100	2	106	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	124	1	98	97	1	119	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	93	1	84	76	10	93	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	101	1	100	97	3	104	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	103	1	102	98	4	102	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	85	1	79	71	11	88	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	90	1	83	73	13	94	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	101	1	80	75	6	102	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	107	1	81	78	4	106	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Dissolved Metals: no filtered, preserved sample was received, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

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CERTIFICATE OF ANALYSIS 313354

Client Details

Client	Gamuda Australia and Laing O'Rourke Consortium
Attention	Jobeth Teves
Address	Sydney Metro Western Tunnelling Package, NSW

Sample Details

Your Reference	**WTP - Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	16/12/2022
Date completed instructions received	16/12/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	19/12/2022
Date of Issue	19/12/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Hannah Nguyen, Metals Supervisor
Jenny He, Senior Chemist
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Date analysed	-	17/12/2022	17/12/2022	17/12/2022	17/12/2022	17/12/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	112	106	108	113
Surrogate toluene-d8	%	101	103	102	102	103
Surrogate 4-BFB	%	98	102	99	100	99

vTRH(C6-C10)/BTEXN in Water					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Date analysed	-	17/12/2022	17/12/2022	17/12/2022	17/12/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	106	118	115	114
Surrogate toluene-d8	%	102	102	108	101
Surrogate 4-BFB	%	99	102	100	100

svTRH (C10-C40) in Water						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
TRH C_{10} - C_{14}	µg/L	140	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	110	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	250	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	140	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	140	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	110	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	250	<50	<50	<50	<50
Surrogate o-Terphenyl	%	130	82	76	90	72

svTRH (C10-C40) in Water					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	78	69	72	103

PAHs in Water						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	76	73	69	76	72

PAHs in Water					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	75	66	70	71

Miscellaneous Inorganics						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Date analysed	-	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
pH	pH Units	7.1	7.2	7.5	7.7	7.5
Electrical Conductivity	µS/cm	4,600	39,000	590	570	28,000
Turbidity	NTU	4.5	5.7	9.0	5.9	4.5
Total Suspended Solids	mg/L	9	17	14	15	11
Salinity as NaCl *	mg/L	2,900	25,000	370	360	18,000
Total Nitrogen in water	mg/L	0.9	0.4	0.5	0.5	0.4
NOx as N in water	mg/L	<0.005	0.01	0.2	0.09	0.04
Ammonia as N in water	mg/L	0.092	0.071	0.064	<0.005	0.029
Phosphate as P in water	mg/L	0.19	0.060	0.03	0.005	0.04
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Date analysed	-	16/12/2022	16/12/2022	16/12/2022	16/12/2022
pH	pH Units	7.6	7.2	7.6	7.2
Electrical Conductivity	µS/cm	420	32,000	3,000	20,000
Turbidity	NTU	7.8	3.2	3.4	7.3
Total Suspended Solids	mg/L	11	26	10	33
Salinity as NaCl *	mg/L	270	20,000	1,900	13,000
Total Nitrogen in water	mg/L	0.4	0.5	0.8	1.0
NOx as N in water	mg/L	0.1	0.03	0.2	<0.005
Ammonia as N in water	mg/L	0.036	0.22	0.086	0.24
Phosphate as P in water	mg/L	0.057	0.064	0.059	0.18
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005

All metals in water-dissolved						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Aluminium-Dissolved	μg/L	10	<10	<10	10	<10
Arsenic-Dissolved	μg/L	2	2	<1	<1	1
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	<1	<1	<1	<1	<1
Cobalt-Dissolved	μg/L	<1	<1	<1	<1	<1
Copper-Dissolved	μg/L	2	<1	2	2	<1
Iron-Dissolved	μg/L	160	20	190	300	20
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	μg/L	230	120	11	<5	68
Nickel-Dissolved	μg/L	1	<1	<1	<1	<1
Lead-Dissolved	μg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	μg/L	9	17	8	6	13

All metals in water-dissolved					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Aluminium-Dissolved	μg/L	10	150	50	<10
Arsenic-Dissolved	μg/L	<1	2	1	1
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	<1	<1	<1	<1
Cobalt-Dissolved	μg/L	<1	<1	<1	<1
Copper-Dissolved	μg/L	2	<1	3	<1
Iron-Dissolved	μg/L	80	50	80	60
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	μg/L	17	230	9	260
Nickel-Dissolved	μg/L	<1	1	3	1
Lead-Dissolved	μg/L	<1	<1	<1	<1
Zinc-Dissolved	μg/L	12	27	17	5

Metals in Waters - Acid extractable						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Phosphorus - Total	mg/L	0.3	0.1	0.1	0.2	0.2

Metals in Waters - Acid extractable					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Phosphorus - Total	mg/L	0.2	0.2	0.2	0.4

PFAS in Waters Extended						
Our Reference		313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference	UNITS	SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Perfluorobutanesulfonic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	<0.01	0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.03	0.02	0.03	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.02	0.01	0.03	0.03	0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.01	0.01	0.02	0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	101	103	101	100	101
Surrogate $^{13}C_2$ PFOA	%	100	104	107	101	103
Extracted ISTD $^{13}C_3$ PFBS	%	93	85	94	94	86
Extracted ISTD $^{18}O_2$ PFHxS	%	96	97	99	100	97
Extracted ISTD $^{13}C_4$ PFOS	%	94	89	95	97	89
Extracted ISTD $^{13}C_4$ PFBA	%	82	78	90	92	80

PFAS in Waters Extended						
Our Reference	UNITS	313354-1	313354-2	313354-3	313354-4	313354-5
Your Reference		SW01-WTP	SW03-WTP	SW04-WTP	SW05-WTP	SW06-WTP
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	94	69	94	98	74
Extracted ISTD $^{13}C_2$ *PFHxA*	%	99	86	108	109	94
Extracted ISTD $^{13}C_4$ *PFHpA*	%	96	83	102	102	88
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	82	95	102	88
Extracted ISTD $^{13}C_5$ *PFNA*	%	98	89	99	103	93
Extracted ISTD $^{13}C_2$ *PFDA*	%	90	89	104	102	90
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	96	89	100	103	92
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	90	78	93	88	82
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	72	58	81	78	61
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	86	41	111	120	52
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	53	110	114	59
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	55	102	99	63
Extracted ISTD $^{13}C_8$ *FOSA*	%	87	82	90	92	81
Extracted ISTD d_3 *N MeFOSA*	%	92	90	100	101	90
Extracted ISTD d_5 *N EtFOSA*	%	95	93	106	100	94
Extracted ISTD d_7 *N MeFOSE*	%	91	101	105	102	96
Extracted ISTD d_9 *N EtFOSE*	%	92	93	97	98	89
Extracted ISTD d_3 *N MeFOSAA*	%	91	57	101	108	65
Extracted ISTD d_5 *N EtFOSAA*	%	78	50	84	87	51
Total Positive PFHxS & PFOS	µg/L	0.05	0.02	0.03	0.03	0.02
Total Positive PFOA & PFOS	µg/L	0.05	0.03	0.04	0.03	0.02
Total Positive PFAS	µg/L	0.09	0.04	0.07	0.07	0.03

PFAS in Waters Extended					
Our Reference	UNITS	313354-6	313354-7	313354-8	313354-9
Your Reference		SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Date analysed	-	19/12/2022	19/12/2022	19/12/2022	19/12/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.01	0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.02	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	0.06	0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	0.04	0.02
Perfluorohexanoic acid	µg/L	<0.01	0.01	0.05	0.03
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.01	0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	100	103	102	100
Surrogate $^{13}C_2$ *PFOA*	%	106	107	106	104
Extracted ISTD $^{13}C_3$ *PFBS*	%	93	88	96	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102	98	99	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	95	90	94	92
Extracted ISTD $^{13}C_4$ *PFBA*	%	89	81	84	81

PFAS in Waters Extended					
Our Reference		313354-6	313354-7	313354-8	313354-9
Your Reference	UNITS	SW07-WTP	SW08-WTP	SW09-WTP	SW02-WTP-TS
Date Sampled		16/12/2022	16/12/2022	16/12/2022	16/12/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	96	74	93	80
Extracted ISTD $^{13}C_2$ *PFHxA*	%	111	91	111	98
Extracted ISTD $^{13}C_4$ *PFHpA*	%	105	91	105	92
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	84	98	88
Extracted ISTD $^{13}C_5$ *PFNA*	%	103	92	101	93
Extracted ISTD $^{13}C_2$ *PFDA*	%	107	93	103	96
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	100	95	104	98
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	88	81	88	85
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	60	70	71	59
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	117	49	100	64
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	117	58	103	73
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	116	58	101	69
Extracted ISTD $^{13}C_8$ *FOSA*	%	91	85	90	85
Extracted ISTD d_3 *N MeFOSA*	%	95	95	101	99
Extracted ISTD d_5 *N EtFOSA*	%	98	101	101	101
Extracted ISTD d_7 *N MeFOSE*	%	102	101	109	101
Extracted ISTD d_9 *N EtFOSE*	%	93	93	99	94
Extracted ISTD d_3 *N MeFOSAA*	%	106	62	98	70
Extracted ISTD d_5 *N EtFOSAA*	%	87	50	80	57
Total Positive PFHxS & PFOS	µg/L	0.01	0.02	0.03	0.04
Total Positive PFOA & PFOS	µg/L	0.01	0.02	0.03	0.04
Total Positive PFAS	µg/L	0.01	0.03	0.20	0.12

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			16/12/2022	[NT]	[NT]	[NT]	[NT]	16/12/2022	[NT]
Date analysed	-			17/12/2022	[NT]	[NT]	[NT]	[NT]	17/12/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	108	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate toluene-d8	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate 4-BFB	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/12/2022	[NT]	[NT]	[NT]	[NT]	19/12/2022	[NT]
Date analysed	-			19/12/2022	[NT]	[NT]	[NT]	[NT]	19/12/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	80	[NT]	[NT]	[NT]	[NT]	87	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/12/2022	[NT]	[NT]	[NT]	[NT]	19/12/2022	[NT]
Date analysed	-			19/12/2022	[NT]	[NT]	[NT]	[NT]	19/12/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	69	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	77	[NT]	[NT]	[NT]	[NT]	81	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	313354-1
Date prepared	-			16/12/2022	1	16/12/2022	16/12/2022		16/12/2022	16/12/2022
Date analysed	-			16/12/2022	1	16/12/2022	16/12/2022		16/12/2022	16/12/2022
pH	pH Units		Inorg-001	[NT]	1	7.1	[NT]		101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	4600	[NT]		101	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	4.5	[NT]		101	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	9	10	11	92	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	2900	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.9	[NT]		99	92
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		93	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.092	[NT]		100	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.19	[NT]		106	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	109	[NT]
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	2	16/12/2022	16/12/2022		[NT]	[NT]
Date analysed	-			[NT]	2	16/12/2022	16/12/2022		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	2	7.2	7.3	1	[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	2	39000	39000	0	[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	2	5.7	[NT]		[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	2	17	[NT]		[NT]	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	[NT]	2	25000	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	2	0.4	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	2	0.01	0.01	0	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	2	0.071	0.070	1	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	2	0.060	0.063	5	[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	2	<0.005	[NT]		[NT]	[NT]
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	[NT]	2	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	4	16/12/2022	16/12/2022		[NT]	[NT]
Date analysed	-			[NT]	4	16/12/2022	16/12/2022		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	4	7.7	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	4	570	[NT]		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	4	5.9	5.8	2	[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	4	15	[NT]		[NT]	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	[NT]	4	360	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	4	0.5	0.5	0	[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	4	0.09	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	4	<0.005	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	4	0.005	[NT]		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	4	<0.005	[NT]		[NT]	[NT]
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	[NT]	4	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	313354-2
Date prepared	-			19/12/2022	1	19/12/2022	19/12/2022		19/12/2022	19/12/2022
Date analysed	-			19/12/2022	1	19/12/2022	19/12/2022		19/12/2022	19/12/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	10	10	0	95	111
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	1	67	93	106
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	94	108
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	103
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	93	98
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	1	67	93	92
Iron-Dissolved	µg/L	10	Metals-022	<10	1	160	160	0	95	96
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	93	89
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	230	220	4	97	118
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	94	96
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	91	92
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	9	7	25	94	100

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	313354-2
Date prepared	-			19/12/2022	1	19/12/2022	19/12/2022		19/12/2022	19/12/2022
Date analysed	-			19/12/2022	1	19/12/2022	19/12/2022		19/12/2022	19/12/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.3	0.4	29	94	100

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	313354-2
Date prepared	-			19/12/2022	1	19/12/2022	19/12/2022		19/12/2022	19/12/2022
Date analysed	-			19/12/2022	1	19/12/2022	19/12/2022		19/12/2022	19/12/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	117	138
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	116	122
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	113	112
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	112	117
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.03	0.03	0	119	111
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	111	118
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	114	112
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	123
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.02	0.03	40	116	108
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	117	125
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	116	116
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	115	117
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	122	106
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	106
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	113	116
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	107	123
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	115	116
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	115	110
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	113	106
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	127	160
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	126	151
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	117	121
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	110	108
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	115	109
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	110	107
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	117	116
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	112	98
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	119	133
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	1	101	99	2	102	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	103	1	100	102	2	104	107

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	313354-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	93	1	93	93	0	90	78
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	96	1	96	97	1	94	93
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	93	1	94	92	2	90	89
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	96	1	82	84	2	93	75
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	95	1	94	91	3	92	68
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	99	1	99	102	3	95	87
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	95	1	96	96	0	93	83
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	98	1	95	95	0	92	80
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	98	1	98	99	1	94	86
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	95	1	90	97	7	94	87
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	99	1	96	97	1	91	85
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	88	1	90	91	1	88	71
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	69	1	72	73	1	64	62
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	102	1	86	87	1	94	42
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	106	1	92	93	1	100	53
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	110	1	87	93	7	99	48
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	93	1	87	85	2	85	78
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	94	1	92	93	1	88	91
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	94	1	95	97	2	86	95
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	97	1	91	95	4	91	94

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	313354-2
Extracted ISTD d_9 N EtFOSE	%		Org-029	91	1	92	93	1	86	89
Extracted ISTD d_3 N MeFOSAA	%		Org-029	107	1	91	91	0	92	53
Extracted ISTD d_5 N EtFOSAA	%		Org-029	100	1	78	79	1	91	47

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Dissolved Metals: no filtered, preserved sample was received, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

PFAS: For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

PFAS: Matrix spike recoveries for 8:2-FTS and 10:2-FTS on sample 2 are outside acceptance criteria (60-140%), however acceptable recoveries were obtained for the LCS.

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CERTIFICATE OF ANALYSIS 314786

Client Details

Client	Gamuda Australia
Attention	Scott Thompson
Address	Sydney Metro Western Tunnelling Package, NSW

Sample Details

Your Reference	**WTP - Surface Water Monitoring**
Number of Samples	9 Water
Date samples received	19/01/2023
Date completed instructions received	19/01/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	30/01/2023
Date of Issue	30/01/2023

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Results Approved By
Ashley Miller, Development Chemist
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Loren Bardwell, Development Chemist
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	20/01/2023	20/01/2023	20/01/2023	20/01/2023	20/01/2023
Date analysed	-	21/01/2023	21/01/2023	21/01/2023	21/01/2023	21/01/2023
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	109	110	105	101	101
Surrogate toluene-d8	%	105	107	105	101	102
Surrogate 4-BFB	%	104	105	104	104	104

vTRH(C6-C10)/BTEXN in Water					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date extracted	-	20/01/2023	20/01/2023	20/01/2023	20/01/2023
Date analysed	-	21/01/2023	21/01/2023	21/01/2023	21/01/2023
TRH C_6 - C_9	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	117	111	110	100
Surrogate toluene-d8	%	111	105	108	104
Surrogate 4-BFB	%	108	102	103	101

svTRH (C10-C40) in Water						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	25/01/2023	25/01/2023	25/01/2023	25/01/2023	25/01/2023
Date analysed	-	26/01/2023	26/01/2023	26/01/2023	26/01/2023	26/01/2023
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	80	76	78	89	74

svTRH (C10-C40) in Water					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date extracted	-	25/01/2023	25/01/2023	25/01/2023	25/01/2023
Date analysed	-	26/01/2023	26/01/2023	25/01/2023	25/01/2023
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50
Surrogate o-Terphenyl	%	95	60	75	70

PAHs in Water						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	25/01/2023	25/01/2023	25/01/2023	25/01/2023	25/01/2023
Date analysed	-	25/01/2023	25/01/2023	25/01/2023	25/01/2023	25/01/2023
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	69	75	68	72	63

PAHs in Water					
Our Reference	UNITS	314786-6	314786-7	314786-8	314786-9
Your Reference		SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date extracted	-	25/01/2023	25/01/2023	25/01/2023	25/01/2023
Date analysed	-	25/01/2023	25/01/2023	25/01/2023	25/01/2023
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	67	72	62	62

Miscellaneous Inorganics						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/01/2023	19/01/2023	19/01/2023	19/01/2023	19/01/2023
Date analysed	-	19/01/2023	19/01/2023	19/01/2023	19/01/2023	19/01/2023
pH	pH Units	7.3	7.0	7.0	7.5	7.4
Electrical Conductivity	µS/cm	1,900	19,000	26,000	430	420
Turbidity	NTU	7.8	1.5	1.7	4.0	19
Total Suspended Solids	mg/L	27	22	8	12	22
Salinity as NaCl *	mg/L	1,200	12,000	17,000	270	270
Total Nitrogen in water	mg/L	0.7	1.4	1.1	0.3	0.4
NOx as N in water	mg/L	<0.005	0.2	0.06	0.05	0.09
Ammonia as N in water	mg/L	<0.005	0.43	0.37	0.13	0.14
Phosphate as P in water	mg/L	<0.005	0.058	0.053	<0.005	<0.005
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date prepared	-	19/01/2023	19/01/2023	19/01/2023	19/01/2023
Date analysed	-	19/01/2023	19/01/2023	19/01/2023	19/01/2023
pH	pH Units	6.9	7.5	7.1	7.7
Electrical Conductivity	µS/cm	26,000	540	20,000	2,100
Turbidity	NTU	9.0	1.4	1.1	2.9
Total Suspended Solids	mg/L	18	11	8	8
Salinity as NaCl *	mg/L	17,000	340	13,000	1,300
Total Nitrogen in water	mg/L	0.6	0.8	0.7	1.0
NOx as N in water	mg/L	0.06	0.2	0.07	0.05
Ammonia as N in water	mg/L	0.16	0.15	0.14	0.34
Phosphate as P in water	mg/L	0.03	0.03	0.052	0.03
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005
Trivalent Chromium, Cr^{3+}	mg/L	<0.005	<0.005	<0.005	<0.005

All metals in water-dissolved						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Date analysed	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Aluminium-Dissolved	µg/L	20	<10	20	50	70
Arsenic-Dissolved	µg/L	2	2	2	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	3	4	4	3
Iron-Dissolved	µg/L	260	300	20	240	230
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	91	120	63	<5	<5
Nickel-Dissolved	µg/L	1	5	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Zinc-Dissolved	µg/L	13	12	12	1	<1

All metals in water-dissolved					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date prepared	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Date analysed	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Aluminium-Dissolved	µg/L	20	10	10	40
Arsenic-Dissolved	µg/L	2	1	2	2
Cadmium-Dissolved	µg/L	0.1	<0.1	0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Cobalt-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	3	1	4
Iron-Dissolved	µg/L	30	210	60	160
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Manganese-Dissolved	µg/L	79	44	85	130
Nickel-Dissolved	µg/L	<1	<1	<1	2
Lead-Dissolved	µg/L	<1	<1	<1	<1
Zinc-Dissolved	µg/L	3	1	<1	42

Metals in Waters - Acid extractable						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Date analysed	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Phosphorus - Total	mg/L	0.2	0.3	0.1	0.08	0.07

Metals in Waters - Acid extractable					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date prepared	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Date analysed	-	24/01/2023	24/01/2023	24/01/2023	24/01/2023
Phosphorus - Total	mg/L	0.2	0.09	0.1	0.1

PFAS in Waters Extended						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	23/01/2023	23/01/2023	23/01/2023	23/01/2023	23/01/2023
Date analysed	-	23/01/2023	23/01/2023	23/01/2023	23/01/2023	23/01/2023
Perfluorobutanesulfonic acid	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.03	0.02	0.02	<0.01	0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.06	0.08	0.03	0.02	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	0.02	<0.02
Perfluorohexanoic acid	µg/L	0.02	0.02	0.02	0.02	0.03
Perfluoroheptanoic acid	µg/L	<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
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	95	99	101	97	99
Surrogate $^{13}C_2$ PFOA	%	118	114	117	123	114
Extracted ISTD $^{13}C_3$ PFBS	%	106	102	100	105	106
Extracted ISTD $^{18}O_2$ PFHxS	%	107	105	108	109	106
Extracted ISTD $^{13}C_4$ PFOS	%	109	106	105	104	107
Extracted ISTD $^{13}C_4$ PFBA	%	95	83	81	102	103

PFAS in Waters Extended						
Our Reference		314786-1	314786-2	314786-3	314786-4	314786-5
Your Reference	UNITS	SW01	SW02	SW03	SW04	SW05
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	111	97	95	113	112
Extracted ISTD $^{13}C_2$ *PFHxA*	%	107	100	99	109	110
Extracted ISTD $^{13}C_4$ *PFHpA*	%	105	100	102	106	109
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	101	98	102	107
Extracted ISTD $^{13}C_5$ *PFNA*	%	111	104	104	109	111
Extracted ISTD $^{13}C_2$ *PFDA*	%	118	105	112	113	116
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	116	113	111	111	119
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	108	104	102	113	114
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	81	95	86	93	88
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	114	83	75	111	121
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	112	94	95	114	114
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	116	101	99	117	113
Extracted ISTD $^{13}C_8$ *FOSA*	%	107	113	112	108	107
Extracted ISTD d_3 *N MeFOSA*	%	101	101	100	99	101
Extracted ISTD d_5 *N EtFOSA*	%	100	97	99	102	101
Extracted ISTD d_7 *N MeFOSE*	%	119	116	111	109	120
Extracted ISTD d_9 *N EtFOSE*	%	106	108	101	102	102
Extracted ISTD d_3 *N MeFOSAA*	%	114	97	92	111	115
Extracted ISTD d_5 *N EtFOSAA*	%	112	96	97	111	115
Total Positive PFHxS & PFOS	µg/L	0.09	0.10	0.05	0.02	0.03
Total Positive PFOA & PFOS	µg/L	0.07	0.09	0.03	0.03	0.03
Total Positive PFAS	µg/L	0.13	0.15	0.06	0.07	0.07

PFAS in Waters Extended					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Date prepared	-	23/01/2023	23/01/2023	23/01/2023	23/01/2023
Date analysed	-	23/01/2023	23/01/2023	23/01/2023	23/01/2023
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.02	0.02
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.01	0.04	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	0.04
Perfluorohexanoic acid	µg/L	0.01	<0.01	0.02	0.04
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.02
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	98	99	98	98
Surrogate $^{13}C_2$ *PFOA*	%	116	115	118	123
Extracted ISTD $^{13}C_3$ *PFBS*	%	104	104	101	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	106	108	107	108
Extracted ISTD $^{13}C_4$ *PFOS*	%	108	106	107	108
Extracted ISTD $^{13}C_4$ *PFBA*	%	83	100	84	91

PFAS in Waters Extended					
Our Reference		314786-6	314786-7	314786-8	314786-9
Your Reference	UNITS	SW06	SW07	SW08	SW09
Date Sampled		17/01/2023	17/01/2023	17/01/2023	17/01/2023
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	93	112	94	110
Extracted ISTD $^{13}C_2$ *PFHxA*	%	97	109	99	108
Extracted ISTD $^{13}C_4$ *PFHpA*	%	100	108	102	107
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	108	97	103
Extracted ISTD $^{13}C_5$ *PFNA*	%	101	112	102	110
Extracted ISTD $^{13}C_2$ *PFDA*	%	111	117	110	112
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	110	116	111	104
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	108	110	109	95
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	88	95	102	56
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	75	117	81	117
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	97	118	97	118
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	102	114	98	114
Extracted ISTD $^{13}C_8$ *FOSA*	%	112	107	110	107
Extracted ISTD d_3 *N MeFOSA*	%	101	100	101	97
Extracted ISTD d_5 *N EtFOSA*	%	102	96	103	94
Extracted ISTD d_7 *N MeFOSE*	%	120	117	117	117
Extracted ISTD d_9 *N EtFOSE*	%	102	105	106	102
Extracted ISTD d_3 *N MeFOSAA*	%	97	114	98	112
Extracted ISTD d_5 *N EtFOSAA*	%	98	116	104	106
Total Positive PFHxS & PFOS	µg/L	0.01	0.01	0.06	0.04
Total Positive PFOA & PFOS	µg/L	0.01	0.01	0.04	0.04
Total Positive PFAS	µg/L	0.03	0.01	0.08	0.17

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-019	Suspended Solids - determined gravimetricially by filtration of the sample. The samples are dried at 104+/-5°C.
Inorg-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	[NT]
Date extracted	-			20/01/2023	3	20/01/2023	23/01/2023		20/01/2023	[NT]
Date analysed	-			21/01/2023	3	21/01/2023	24/01/2023		21/01/2023	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	3	<10	<10	0	107	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	3	<10	<10	0	107	[NT]
Benzene	µg/L	1	Org-023	<1	3	<1	<1	0	101	[NT]
Toluene	µg/L	1	Org-023	<1	3	<1	<1	0	105	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	3	<1	<1	0	109	[NT]
m+p-xylene	µg/L	2	Org-023	<2	3	<2	<2	0	110	[NT]
o-xylene	µg/L	1	Org-023	<1	3	<1	<1	0	106	[NT]
Naphthalene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	3	105	107	2	98	[NT]
Surrogate toluene-d8	%		Org-023	102	3	105	102	3	97	[NT]
Surrogate 4-BFB	%		Org-023	101	3	104	105	1	102	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			25/01/2023	1	25/01/2023	25/01/2023		25/01/2023	[NT]
Date analysed	-			26/01/2023	1	26/01/2023	26/01/2023		26/01/2023	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	94	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	115	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	114	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	94	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	115	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	114	[NT]
Surrogate o-Terphenyl	%		Org-020	78	1	80	79	1	91	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			25/01/2023	1	25/01/2023	25/01/2023		25/01/2023	[NT]
Date analysed	-			25/01/2023	1	25/01/2023	25/01/2023		25/01/2023	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	71	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	88	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	86	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	76	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	81	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	67	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	75	1	69	75	8	72	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	314786-2
Date prepared	-			19/01/2023	1	19/01/2023	19/01/2023		19/01/2023	19/01/2023
Date analysed	-			19/01/2023	1	19/01/2023	19/01/2023		19/01/2023	19/01/2023
pH	pH Units		Inorg-001	[NT]	1	7.3	7.3	0	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1900	1900	0	105	[NT]
Turbidity	NTU	0.1	Inorg-022	<0.1	1	7.8	7.9	1	106	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	<5	1	27	[NT]		103	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	<1	1	1200	1200	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.7	0.7	0	90	91
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	113	90
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	<0.005	<0.005	0	117	118
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	98	98
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	99	117
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	3	19/01/2023	19/01/2023		[NT]	[NT]
Date analysed	-			[NT]	3	19/01/2023	19/01/2023		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	3	7.0	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	3	26000	[NT]		[NT]	[NT]
Turbidity	NTU	0.1	Inorg-022	[NT]	3	1.7	[NT]		[NT]	[NT]
Total Suspended Solids	mg/L	5	Inorg-019	[NT]	3	8	6	29	[NT]	[NT]
Salinity as NaCl *	mg/L	1	Inorg-002	[NT]	3	17000	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	3	1.1	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	3	0.06	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	3	0.37	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	3	0.053	[NT]		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	3	<0.005	[NT]		[NT]	[NT]
Trivalent Chromium, Cr^{3+}	mg/L	0.005	Inorg-024	[NT]	3	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	314786-2
Date prepared	-			24/01/2023	1	24/01/2023	24/01/2023		24/01/2023	24/01/2023
Date analysed	-			24/01/2023	1	24/01/2023	24/01/2023		24/01/2023	24/01/2023
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	20	20	0	107	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	1	67	104	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	101	[NT]
Cobalt-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	100	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	100	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	260	260	0	89	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	91	91
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	91	90	1	92	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	<1	0	98	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	13	12	8	104	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			24/01/2023	1	24/01/2023	24/01/2023		24/01/2023	[NT]
Date analysed	-			24/01/2023	1	24/01/2023	24/01/2023		24/01/2023	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.2	0.2	0	107	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	314786-2
Date prepared	-			23/01/2023	1	23/01/2023	23/01/2023		23/01/2023	23/01/2023
Date analysed	-			23/01/2023	1	23/01/2023	23/01/2023		23/01/2023	23/01/2023
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	111
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	110	105
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.03	0.03	0	112	104
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	119	114
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.06	0.06	0	100	102
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	103
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	109	110
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	100	102
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.02	0.03	40	107	103
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	106
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	108	105
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	101	105
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	98
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	98
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	102	99
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	97	98
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	112	108
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	111	108
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	116	116
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	108
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	120	116
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	109	107
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	109	108
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	109	105
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	93	88
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	120	118
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	108	112
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	109	105
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	99	1	95	97	2	96	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	112	1	118	115	3	116	112

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	314786-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	105	1	106	102	4	102	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	106	1	107	102	5	97	108
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	105	1	109	106	3	105	104
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	114	1	95	92	3	111	81
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	113	1	111	112	1	112	95
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	105	1	107	107	0	104	98
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	104	1	105	104	1	98	99
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	106	1	105	106	1	101	98
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	111	1	111	110	1	106	100
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	113	1	118	111	6	108	108
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	113	1	116	119	3	110	105
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	108	1	108	105	3	108	109
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	81	1	81	62	27	89	98
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	111	1	114	116	2	107	84
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	108	1	112	115	3	108	94
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	118	1	116	114	2	106	100
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	108	1	107	106	1	101	107
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	99	1	101	98	3	96	101
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	1	100	97	3	95	101
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	113	1	119	113	5	108	120

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	314786-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	105	1	106	102	4	99	105
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	117	1	114	112	2	104	90
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	114	1	112	111	1	106	96

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

pH
Samples were out of the recommended holding time for this analysis.

Attachment 2 – Tabulated data

	SW01 Sampling Results	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
	Analyte			Lab Report No.	295817	296605	297165	297794	298951	299608	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.51	7.99	7.32	7.67	8.08	7.69	8.17	6.99	8.25	7.58	8.43	7.46	7.95
	Electrical Conductivity milisemiens/cm	mS/cm)	NA		5.06	1.5	20.6	14.6	5.7	0.344	1.51	1.92	0.88	1.2	1.17	5.44	1.92
	Turbidity	NTU	0.5 - 10		7.4	32.5	50.9	3.5	0.5	41	24	31.5	37.7	19.3	67.4	150	-
	DO %	%	80-110		24.3	42.3	19.7	35.7	33.2	97	41.7	37.3	107.5	48.5	75	30	160.6
	Oil & Grease	Visual	None Visible		None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible
	pH (Lab)	Units	7.0 - 8.5		7.3	7.9	7	7.5	7.5	7.2	7.7	7.4	7.7	8	7	7.1	7.3
	Electrical Conductivity (Lab)	mS/cm)	NA		4.7	15	18	13	5.7	0.33	1.5	1.7	0.84	1.4	1.2	4.6	2
	Turbidity (Lab)	NTU	0.5 - 10		3	5.6	5.4	3	3.6	15	7.6	6.2	6.2	14	2.4	4.5	27
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.91		0.68	0.16	0.73	0.49	0.36	0.48	0.14	0.18	0.044	0.14	0.005	0.092	<0.005
	Nitrate (as N)	mg/L	2.4		0.21	0.57	0.02	0.42	0.038	0.94	0.52	<0.55	<0.54	<1.5	<0.5	<0.005	<0.005
	Nitrite (as N)	mg/L	-		0.049	0.051	0.044	0.05	0.047	0.025	0.007	<0.55	<0.54	<1.5	<0.5	<0.005	<0.005
	Total Oxidised Nitrogen	mg/L	2.4		0.259	0.621	0.064	0.47	0.085	0.965	0.527	0.55	0.54	1.5	0.5	<0.005	<0.005
	Phosphorus	mg/L	0.03		0.2	0.1	0.3	0.2	0.2	0.3	0.3	0.09	0.1	0.1	0.2	0.3	0.2
	Total Nitrogen (as N)*	mg/L	2.4		1.5	1.3	1.5	1.3	1	2.7	1	1.6	1.1	2	0.9	0.9	0.7
	Heavy Metals																
	Arsenic (dissolved)	ug/L	-		2	1	1	1	<1	2	2	<1	<1	1	<1	2	2
	Cadmium (dissolved)	ug/L	0.7		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chromium (dissolved)	ug/L	4.4		<1	<1	<1	1	<1	<1	<1	<1	<1	2	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	4.4		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	27		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1		-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
	Copper (dissolved)	ug/L	1.3		2	2	<1	2	<1	6	3	<1	3	4	1	2	2
	Iron (dissolved)	ug/L	-		110	80	530	80	110	250	210	40	170	120	40	160	260
	Lead (dissolved)	ug/L	4.4		<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
	Manganese (dissolved)	ug/L	80		270	30	350	120	100	15	64	47	35	31	43	230	91
	Mercury (dissolved)	ug/L	0.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nickel (dissolved)	ug/L	7		1	2	1	<1	1	1	1	<1	<1	2	<1	1	1
	Zinc (dissolved)	ug/L	8		16	14	35	8	10	45	25	71	22	32	54	9	13
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		0.02	0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.03	0.03	0.02	0.03	0.02	<0.01	0.02	0.02	<0.01	0.03	<0.01	0.01	0.03
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.11	0.13	0.07	0.08	0.06	0.04	0.16	0.05	0.05	0.07	<0.01	0.03	0.06
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzo(b,j+k)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	50		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	62	<50	<50	<50	<50	<50	140	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	62	<50	<50	<50	<50	<50	140	<50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	220	<50	<50	<50	<50	<50	250	<50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	160	<100	<100	<100	<100	<100	110	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	66	<50	<50	<50	<50	<50	140	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	190	<50	<50	<50	<50	<50	250	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	120	<100	<100	<100	<100	<100	110	<100
	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	500		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	80		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	75		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	180		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

	SW02 Sampling Results	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	Not accessible due to	28/11/2022	16/12/2022	17/01/2023
	Analyte			Lab Report No.	295817	296605	297165	297794	298951	299608	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.31	7.23	7.45	7.55	7.73	7.79	7.59	6.99	7.98	-	7.61	7.28	7.03
	Electrical Conductivity	mS/cm)	NA		14.2	32.4	38	38.8	42.9	0.329	35.1	1.92	7.05	-	2.68	20.2	27.4
	Turbidity	NTU	0.5 - 10		3.4	13.3	3.3	0	0	60.5	10.6	31.5	36.7	-	67	116	-
	DO%	%	80-110		13.3	18.5	28.3	43.7	52.3	70.9	17.4	3.84	95.3	-	38.3	35	147.1
	Oil & Grease	Visual	None Visible		None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	-	None Visible	None Visible	161
	pH (lab)	Units	7.0 - 8.5		7.2	7.6	7.3	7.3	7.3	7.5	7.7	7.3	7.5	-	7.2	7.2	7
	Electrical Conductivity (lab)	ug/L	NA		12000	5500	21000	30000	30000	350	8100	9600	6900	-	2200	20000	19,000
	Turbidity (lab)	NTU	0.5 - 10		3	3.3	1.6	4	1.8	46	9.1	4.6	6.2	-	5.4	7.3	1.5
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.91		0.38	0.09	0.37	0.11	0.22	0.22	0.19	0.15	0.064	-	0.067	0.24	0.43
	Nitrate (as N)	mg/L	2.4*		0.4	0.5	0.16	0.24	0.17	0.89	0.6	<0.4	<0.52	-	<0.3	<0.005	<0.2
	Nitrite (as N)	mg/L	-		0.055	0.047	0.041	0.028	0.024	0.025	0.02	<0.4	<0.52	-	<0.3	<0.005	<0.2
	Total Oxidised Nitrogen (NOx)	mg/L	2.4*		0.455	0.547	0.201	0.268	0.194	0.915	0.62	0.4	0.52	-	0.3	<0.005	0.2
	Phosphorus	mg/L	0.03		0.1	0.08	0.1	0.08	0.09	0.2	0.2	0.07	0.09	-	0.1	0.4	0.3
	Total Nitrogen (as N)*	mg/L	2.4*		1	1.3	1	0.6	0.6	1.7	1	0.6	1.1	-	0.9	1	1.4
	Heavy Metals																
	Arsenic (dissolved)	ug/L	-		2	1	<1	1	1	2	2	<1	1	-	<1	1	2
	Cadmium (dissolved)	ug/L	0.7		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
	Chromium (dissolved)	ug/L	4.4		<1	<1	<1	1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	4.4		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.005	<0.005	-	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	27		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1								<1	<1	<1	-	<1	<1	<1
	Copper (dissolved)	ug/L	1.3		1	2	<1	1	<1	5	2	2	4	-	2	<1	3
	Iron (dissolved)	ug/L	-		70	100	90	50	60	200	50	60	110	-	40	60	300
	Lead (dissolved)	ug/L	4.4		<1	<1	<1	<1	<1	1	<1	<1	<1	-	<1	<1	<1
	Manganese (dissolved)	ug/L	80		140	47	230	67	84	11	74	33	30	-	40	260	120
	Mercury (dissolved)	ug/L	0.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05
	Nickel (dissolved)	ug/L	7		<1	2	1	<1	1	<1	1	<1	1	-	<1	1	5
	Zinc (dissolved)	ug/L	8		18	20	28	11	22	35	18	26	36	-	29	5	12
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		0.02	0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	<0.01	-	<0.01	0.01	0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.02	0.02	0.02	0.02	0.02	<0.01	0.03	0.01	0.01	-	<0.01	0.01	0.02
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.07	0.08	0.04	0.03	0.03	0.03	0.05	0.02	0.05	-	0.04	0.02	0.08
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Naphthalene	ug/L	50		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	-	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100
	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	500		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Ethylbenzene	ug/L	80		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	m&p-Xylenes	ug/L	75		<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1
	Toluene	ug/L	180		<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1

	SW03 Sampling Results	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
	Analyte			Lab Report No.	295817	296605	297165	297794	298951	299608	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.45	7.48	7.44	7.8	8	7.74	7.69	7.67	7.86	6.53	7.48	7.2	7.7
	Electrical Conductivity	mS/cm)	NA		29.2	12.8	35.2	38.5	31.4	0.538	18.2	2.36	9.91	7.39	26.6	44.8	25.4
	Turbidity	NTU	0.5 - 10		6.4	48.3	4.7	2.9	1.6	80.8	22.1	191	51.4	20.7	61.8	44	-
	DO%	%	80-110		45.6	47.3	36.3	61.5	57.4	108.8	51.1	90.9	54.7	116.8	67.6	65	85.8
	Oil & Grease	Visual	None Visible		None Visible	Slight sheen	Slight sheen	Slight sheen	None Visible	None Visible	None Visible	NA	NA	NA	NA	N/A	na
	pH	Units	7.0 - 8.5		7.2	7.5	7.3	7.6	7.3	7.4	7.6	7.8	7.4	7.4	7.4	7.2	7
	Electrical Conductivity	mS/cm)	NA		26	12	26	35	25	0.55	17	24	9.8	7.4	26	39	26
	Turbidity	NTU	0.5 - 10		5.7	15	2.4	4.1	2.5	26	6.4	3.2	9.4	19	3.3	5.7	1.7
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.91		0.25	0.13	0.24	0.066	0.42	0.49	0.28	0.048	0.11	0.14	0.046	0.071	0.37
	Nitrate (as N)	mg/L	2.4*		0.22	0.39	0.19	0.13	0.29	1	0.37	<0.2	<0.3	<1.9	<0.1	<0.01	<0.06
	Nitrite (as N)	mg/L	-		0.023	0.025	0.026	0.011	0.028	0.031	0.008	<0.2	<0.3	<1.9	<0.1	<0.01	<0.06
	Total Oxidised Nitrogen (NOx)	mg/L	2.4*		0.243	0.415	0.216	0.141	0.318	1.031	0.378	0.2	0.3	1.9	0.1	0.01	0.06
	Phosphorus	mg/L	0.03		0.1	0.09	0.07	0.07	0.08	0.3	0.1	0.06	0.08	0.2	0.1	0.1	0.1
	Total Nitrogen (as N)*	mg/L	2.4*		0.8	1	0.7	0.5	0.8	2.4	0.8	0.5	1	1.9	0.6	0.4	1.1
	Heavy Metals																
	Arsenic (dissolved)	ug/L	-		2	2	1	1	<1	2	2	<1	<1	2	1	2	2
	Cadmium (dissolved)	ug/L	0.7		<0.1	<0.1	<.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chromium (dissolved)	ug/L	4.4		<1	<1	<1	1	<1	2	2	<1	<1	<1	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	4.4		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	27		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1		-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
	Copper (dissolved)	ug/L	1.3		<1	2	<1	1	<1	6	1	1	4	4	2	<1	3
	Iron (dissolved)	ug/L	-		20	80	30	<10	20	300	30	20	60	200	20	20	20
	Lead (dissolved)	ug/L	4.4		<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
	Manganese (dissolved)	ug/L	80		67	61	82	40	99	19	85	45	35	44	96	120	63
	Mercury (dissolved)	ug/L	0.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
	Nickel (dissolved)	ug/L	7		<1	1	1	<1	<1	1	1	<1	<1	1	1	<1	<1
	Zinc (dissolved)	ug/L	8		12	24	30	7	13	47	21	21	54	23	28	17	12
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		<0.01	0.02	<0.01	<0.01	0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.02	<0.01	0.02	0.01	<0.01	0.02
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.03	0.05	0.03	0.03	0.02	0.03	0.05	0.02	0.02	0.02	0.02	0.02	0.03
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	50		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	< 50	<50	<50	< 50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	100	<50	<50	<50	<50	<50	<50	<50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	100	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C29-C36	ug/L	-		<50	<50	<50	<50	<50	<100	<50	<50	<100	<50	<100	<100	<50
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	500		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	80		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	75		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	<!	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	180		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

	SW04 Sampling Results Analyte	Units	ANZG (2018) Toxicant default guidelines for Frfeshwater Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
				Lab Report No.	295817	296605	297165	297794	298951	Not Tested	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.79	8.03	7.7	8.01	8.18	-	8.33	7.7	8.12	7.63	7.63	7.88	7.55
WQO	Electrical Conductivity	mS/cm	0.125 - 2.2		0.468	0.564	0.879	0.788	1.89	-	0.6	0.642	0.427	0.383	0.75	0.568	2
WQO	Turbidity	NTU	6.0-10.0		29	73.6	38.1	43.5	16.2	-	74.9	39.1	149	74.1	123	11	-
WQO	DO%	%	85-110		112.4	63.6	61	64.4	67.4	-	75.6	60.4	83.6	117.1	104.1	88	87.9
WQO	Oil & Grease	Visual	None Visible		None Visible	None Visible	None Visible	None Visible	None Visible	-	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible
WQO	pH (Lab)	Units	7.0 - 8.5		7.9	7.9	8	7.9	7.8	-	7.8	7.7	7.5	7.8	7.7	7.5	7.5
WQO	Electrical Conductivity (Lab)	mS/cm	0.125 - 2.2		0.43	0.41	0.88	0.66	1.8	-	0.58	0.45	0.3	0.38	0.81	0.59	0.43
WQO	Turbidity	NTU	6.0-10.0		8.6	15	7.8	13	5	-	28	7.7	8.5	47	3.5	9	4
Toxicants	**Nutrients**																
Toxicants	Ammonia (as N)	mg/L	0.9		0.19	0.058	0.51	0.5	0.045	-	0.087	0.073	0.039	0.19	0.01	0.064	0.13
Toxicants	Nitrate (as N)	mg/L	2.4		0.66	0.63	0.54	0.78	0.44	-	0.53	<0.74	<0.5	<1	<0.09	<0.2	<0.05
Toxicants	Nitrite (as N)	mg/L	-		0.028	0.023	0.054	0.1	0.022	-	0.006	<0.74	<0.5	<1	<0.09	<0.2	<0.05
Toxicants	Total Oxidised Nitrogen (NOx)	mg/L	2.4		0.688	0.653	0.594	0.88	0.462	-	0.536	0.74	0.5	1	0.09	0.2	0.05
Toxicants	Phosphorus	mg/L	0.035		0.08	<0.05	<0.05	0.08	0.5	-	0.07	<0.05	0.07	0.1	0.07	0.1	0.08
Toxicants	Total Nitrogen (as N)*	mg/L	2.4		1	1	3.6	2.3	0.7	-	0.9	1	0.9	1.5	0.5	0.5	0.3
Toxicants	**Heavy Metals**																
Toxicants	Arsenic (dissolved)	ug/L	13		<1	<1	<1	<1	<1	-	<1	<1	<1	1	<1	<1	<1
Toxicants	Cadmium (dissolved)	ug/L	0.2		<0.1	<0.1	<0.1	<0.1	0.2	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toxicants	Chromium (dissolved)	ug/L	0.001		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Chromium (hexavalent Cr6+ Low Level)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001	-	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toxicants	Chromium (trivalent)	mg/L	0.0033		<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toxicants	Cobalt (dissolved)	ug/L	1.4							-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Copper (dissolved)	ug/L	1.4		2	3	2	3	<1	-	**2**	4	3	4	2	2	4
Toxicants	Iron (dissolved)	ug/L			540	310	200	210	50	-	410	240	330	520	150	190	240
Toxicants	Lead (dissolved)	ug/L	3.4		1	<1	<1	<1	<1	-	<1	<1	<1	52	<1	<1	<1
Toxicants	Manganese (dissolved)	ug/L	1900		89	35	26	59	53	-	68	49	29	43	<5	11	<5
Toxicants	Mercury (dissolved)	ug/L	0.06		<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toxicants	Nickel (dissolved)	ug/L	11		1	1	<1	<1	<1	-	<1	1	<1	1	1	<1	<1
Toxicants	Zinc (dissolved)	ug/L	8		10	9	8	7	5	-	11	32	17	15	8	8	1
Toxicants	**PFAS Parameters**																
Toxicants	1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 F	ug/L	-		<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toxicants	1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 F	ug/L	-		<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Toxicants	Perfluorooctanoic acid (PFOA)	ug/L	220		0.01	0.01	0.01	0.01	0.02	-	0.01	<0.01	0.01	0.01	0.02	0.02	0.01
Toxicants	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.02	0.01	0.02	0.02	0.02	-	0.02	0.02	<0.01	0.02	0.02	<0.01	<0.01
Toxicants	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.03	0.02	0.03	0.05	0.03	-	0.03	0.02	0.02	0.02	0.03	0.03	<0.01
Toxicants	**Polycyclic Aromatic Hydrocarbons**																
Toxicants	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Benzo(a)pyrene	ug/L	0.1		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5
Toxicants	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
Toxicants	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Chrysene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Fluorene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Naphthalene	ug/L	16		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Pyrene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	-	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Toxicants	**Total Recoverable Hydrocarbons**																
Toxicants	Naphthalene	ug/L	16		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
Toxicants	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	< 50	< 50
Toxicants	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
Toxicants	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
Toxicants	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
Toxicants	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
Toxicants	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
Toxicants	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
Toxicants	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<50	<50
Toxicants	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
Toxicants	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
Toxicants	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
Toxicants	**Volatile Organics**																
Toxicants	Benzene	ug/L	950		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Ethylbenzene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	m&p-Xylenes	ug/L	200		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
Toxicants	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
Toxicants	Toluene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1

	SW05 Sampling Results Analyte	Units	ANZG (2018) Toxicant default guidelines for Freshwater Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
				Lab Report No.	295817	296605	297165	297794	298951	Not Tested	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.78	7.81	7.77	7.79	8.4	-	8	8.18	8.09	7.73	7.62	7.64	8.44
	Electrical Conductivity	mS/cm)	0.125 - 2.2		0.461	0.427	0.872	0.729	2	-	0.593	0.511	0.335	0.374	0.754	0.369	0.443
	Turbidity	NTU	6.0-10.0		22	84.6	39.8	15.2	9.4	-	58.4	38.5	77.1	72.6	103	140	38.8
	DO%	%	85-110		59	63.1	54.5	55.6	82.1	-	66.5	70.7	83.6	120.1	102.2	150	148
	Oil & Grease	Visual	None Visible		None visible	None visible	None visible	None visible	None visible	-	None visible	None visible	None visible	None visible	None visible	None visible	None visible
	pH	Units	7.0 - 8.5		7.8	7.8	7.9	7.8	7.9	-	7.9	7.8	7.5	7.8	7.7	7.7	7.4
	Electrical Conductivity	ug/L	0.125 - 2.2		0.44	0.41	0.88	0.67	1.9	-	0.58	0.45	0.29	0.37	0.82	0.57	0.42
	Turbidity	NTU	6.0-10.0		16	13	3.6	4.9	4.2	-	23	6.7	16	43	24	5.9	19
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.9		0.17	0.085	0.51	0.6	0.048	-	0.082	0.074	0.15	0.19	<0.005	<0.005	0.14
	Nitrate (as N)	mg/L	2.4		0.65	0.47	0.54	0.85	0.44	-	0.52	<0.4	<0.4	<1.7	<0.1	<0.09	<0.09
	Nitrite (as N)	mg/L	-		0.026	0.018	0.053	0.11	0.023	-	0.006	<0.4	<0.4	<1.7	<0.1	<0.09	<0.09
	Total Oxidised Nitrogen (NOx)	mg/L	2.4		0.676	0.488	0.593	0.96	0.463	-	0.526	0.4	0.4	1.7	0.1	0.09	0.09
	Phosphorus	mg/L	0.035		0.08	0.07	0.06	0.09	0.1	-	0.07	<0.05	0.06	0.1	0.07	0.2	0.07
	Total Nitrogen (as N)*	mg/L	2.4		1	0.9	3.5	2.4	0.7	-	0.8	0.7	1	1.7	0.3	0.5	0.4
	Heavy Metals																
	Arsenic (dissolved)	ug/L	13*		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	1
	Cadmium (dissolved)	ug/L	0.2		<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chromium (dissolved)	ug/L	0.001		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001	-	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	0.0033		<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1.4		-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
	Copper (dissolved)	ug/L	1.4		3	2	2	3	<1	-	2	2	2	4	2	2	3
	Iron (dissolved)	ug/L	-		480	310	190	190	40	-	390	260	300	540	160	300	230
	Lead (dissolved)	ug/L	3.4		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Manganese (dissolved)	ug/L	1900		77	34	54	52	40	-	62	54	29	33	11	<5	<5
	Mercury (dissolved)	ug/L	0.06		<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nickel (dissolved)	ug/L	11		<1	<1	<1	<1	<1	-	<1	<1	<1	1	1	<1	<1
	Zinc (dissolved)	ug/L	8		9	7	8	3	<1	-	11	17	14	18	8	6	<1
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		0.02	0.01	0.02	0.01	0.02	-	0.01	0.01	<0.01	0.01	0.02	0.01	0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.02	<0.01	0.02	0.02	0.02	-	0.02	0.01	<0.01	0.02	0.02	0.01	0.01
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.04	0.03	0.03	0.05	0.04	-	0.03	0.02	0.02	0.02	0.03	0.02	<0.01
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.1		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	16		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	-	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	16		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	< 50	< 50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<50	<50
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	950		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	200		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1

SW06 Sampling Results

	Analyte	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
				Lab Report No.	295817	296605	297165	297794	298951	Not Tested	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.39	7.38	7.64	7.8	8.06	-	7.66	7.8	7.54	7.49	7.39	7.33	7.53
	Electrical Conductivity	mS/cm	NA		18.9	24.8	31.6	38.7	37.2	-	20.5	17	16.9	7.44	12.4	27.5	25.4
	Turbidity	NTU	0.5 - 10		9.4	114	18.6	4.8	5.7	-	27	22.5	68	45.8	67.9	103	-
	DO	%	80-110		52.9	58.9	69	55.8	72	-	57.5	82.9	60.9	72.8	98.1	106	79.6
	Oil & Grease	Visual	None Visible		None visible	None visible	Slight sheen	None visible	None visible	-	None visible	None visible	None visible	None visible	None visible	None visible	None visible
	pH	Units	7.0 - 8.5		7.3	7.4	7.5	7.5	7.6	-	7.6	7.6	7.6	7.6	7.6	7.5	6.9
	Electrical Conductivity	mS/cm	NA		15	23	25	35	36	-	18	16	16	7.4	12	28	26
	Turbidity	NTU	0.5 - 10		5.4	4.9	2.2	11	4.4	-	8.4	3.4	7.6	27	4.3	4.5	9
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.91		0.29	0.27	0.25	0.2	0.13	-	0.21	0.05	0.097	0.41	0.045	0.029	0.16
	Nitrate (as N)	mg/L	2.4*		0.37	0.21	0.19	0.17	0.063	-	0.33	<0.2	<0.2	<0.59	<0.05	<0.04	<0.06
	Nitrite (as N)	mg/L	-		0.023	0.02	0.025	0.021	<0.005	-	<0.005	<0.2	<0.2	<0.59	<0.05	<0.04	<0.06
	Total Oxidised Nitrogen (NOx)	mg/L	2.4*		0.393	0.23	0.215	0.191	0.063	-	0.33	0.2	0.2	0.59	0.05	0.04	0.06
	Phosphorus	mg/L	0.03		0.09	0.07	0.08	0.1	0.09	-	0.09	<0.05	0.8	0.1	0.09	0.02	0.2
	Total Nitrogen (as N)*	mg/L	2.4*		0.8	0.7	1.2	0.6	0.5	-	0.7	0.5	0.6	1.7	0.6	0.4	0.6
	Heavy Metals																
	Arsenic (dissolved)	ug/L	-		1	1	<1	1	1	-	1	<1	<1	1	<1	1	2
	Cadmium (dissolved)	ug/L	0.7		<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
	Chromium (dissolved)	ug/L	4.4		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	4.4		<0.001	<0.001	<0.001	<0.001	<0.001	-	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	27		<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1		-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
	Copper (dissolved)	ug/L	1.3		1	<1	1	<1	<1	-	1	1	2	3	1	<1	2
	Iron (dissolved)	ug/L	-		110	70	40	<10	<10	-	80	40	100	310	60	20	30
	Lead (dissolved)	ug/L	4.4		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Manganese (dissolved)	ug/L	80		81	56	45	36	42	-	69	53	54	86	110	68	79
	Mercury (dissolved)	ug/L	0.1		<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nickel (dissolved)	ug/L	7		<1	1	<1	<1	<1	-	<1	1	1	1	1	<1	<1
	Zinc (dissolved)	ug/L	8		8	7	9	5	<1	-	10	100	26	19	14	13	3
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.04	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.02	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.01	<0.01	0.01	0.01	<0.01	-	0.01	0.01	<0.01	0.02	0.02	<0.01	<0.01
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.02	0.02	0.01	0.01	<0.01	-	0.02	0.02	0.01	0.02	0.02	0.02	0.01
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.01		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	50		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	-	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	-		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	< 50	< 50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100
	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<50	<50
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	500		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	80		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	75		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	180		<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1

	SW07 Sampling Results	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
	Analyte			Lab Report No.	295817	296605	297165	297794	298951	299608	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.62	7.69	7.19	7.82	7.95	7.08	7.76	7.62	8.04	7.77	6.56	7.75	8.04
	Electrical Conductivity	mS/cm	0.125 - 2.2		0.875	0.86	0.821	0.967	0.934	0.344	0.759	0	1.05	0.729	0.422	0.516	0.549
	Turbidity	NTU	6.0-10.0		2.8	28.3	3.3	6.7	5.2	23.6	26.4	22.4	31.7	2.4	49.1	63	-
	DO	%	85-110		46.7	52.4	41.1	53.1	63.7	73	69.1	279.4	55.3	123.4	55.2	46.5	99.8
	Oil & Grease	Visual	None Visible		None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	Oily sheen	None visible	None visible
	pH (Lab)	Units	7.0 - 8.5		7.8	8	7.9	7.8	7.9	7.6	7.8	7.7	7.7	8.2	7.6	7.6	7.5
	Electrical Conductivity (Lab)	mS/cm	0.125 - 2.2		0.82	0.8	0.84	0.98	1.1	0.35	0.69	0.55	0.47	0.72	0.4	0.42	0.54
	Turbidity (Lab)	NTU	6.0-10.0		3.4	3.7	4.3	2.8	2.1	21	5.2	4.8	3.8	11	2.8	7.8	1.4
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.9		0.12	0.034	0.057	0.053	0.036	0.033	0.025	0.019	<0.005	0.029	<0.005	0.036	0.15
	Nitrate (as N)	mg/L	2.4		0.35	0.33	0.26	0.34	0.24	1.2	0.26	<0.4	<0.4	<0.4	<0.2	<0.1	<0.2
	Nitrite (as N)	mg/L	-		0.02	0.022	0.015	0.011	0.006	0.013	<0.005	<0.4	<0.4	<0.4	<0.2	<0.1	<0.2
	Total Oxidised Nitrogen (NOx)	mg/L	2.4		0.37	0.352	0.275	0.351	0.246	1.213	0.26	0.4	0.4	0.4	0.2	0.1	0.2
	Phosphorus	mg/L	0.035		0.1	0.09	0.09	0.07	0.1	0.1	0.07	0.09	0.07	0.08	0.1	0.2	0.09
	Total Nitrogen (as N)*	mg/L	2.4		0.7	0.8	0.7	0.6	0.5	1.5	0.5	0.4	0.7	2	0.6	0.4	0.8
	Heavy Metals																
	Arsenic (dissolved)	ug/L	13*		1	1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	1
	Cadmium (dissolved)	ug/L	0.2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chromium (dissolved)	ug/L	0.001		<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	0.0033		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1.4		-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
	Copper (dissolved)	ug/L	1.4		2	1	<1	1	<1	6	3	2	3	3	3	2	3
	Iron (dissolved)	ug/L	-		150	200	240	150	240	440	280	310	300	240	140	80	210
	Lead (dissolved)	ug/L	3.4		<1	<1	<1	<1	<1	2	<1	1	<1	<1	<1	<1	<1
	Manganese (dissolved)	ug/L	1900		110	100	61	48	30	13	65	29	29	53	<5	17	44
	Mercury (dissolved)	ug/L	0.06		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nickel (dissolved)	ug/L	11		<1	1	<1	<1	<1	1	1	<1	<1	2	1	<1	<1
	Zinc (dissolved)	ug/L	8		9	9	7	<1	<1	700	16	23	16	15	13	12	1
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		0.02	0.01	0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.02	0.01	0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.03	0.02	0.02	0.02	0.01	0.01	0.03	0.02	0.02	0.02	0.01	0.01	0.04
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	16		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	16		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	< 50	< 50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<50
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	950		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	200		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

	SW08 Sampling Results Analyte	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
				Lab Report No.	295817	296605	297165	297794	298951	299608	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		7.1	7.26	7.55	7.52	7.64	7.72	7.48	7.77	8.07	7.57	7.32	7.53	7.17
	Electrical Conductivity	mS/cm)	NA		19	12.8	27.8	36.7	25.9	0.384	29.5	13.3	6.05	2.1	7.15	17.3	19.7
	Turbidity	NTU	0.5 - 10		4	50.5	7.9	-	0.2	104	9.4	37	58.3	32	49.5	103	-
	DO	%	80-110		19.9	38	33.7	42.1	39.1	74.7	72.9	47.5	78.4	123.6	148.3	53	72.4
	Oil & Grease	Visual	None Visible		None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	Oil sheen	None Visible	None Visible	None Visible
	pH (Lab)	Units	7.0 - 8.5		7.2	7.4	7.2	7.3	7.3	7.4	7.6	7.3	7.4	7.9	7.5	7.2	7.1
	Electrical Conductivity (Lab)	ug/L	NA		9800	12000	25000	28000	31000	360	10000	13000	5700	2100	6800	32000	20,000
	Turbidity (Lab)	NTU	0.5 - 10		7.4	19	3	2.6	3.1	35	17	5.3	8.7	26	5	3.2	1.1
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.91		0.25	0.17	0.22	0.15	0.24	0.3	0.31	0.3	0.098	0.2	0.18	0.22	0.14
	Nitrate (as N)	mg/L	2.4*		0.45	0.39	0.23	0.22	0.21	1	0.45	<1.2	<0.5	<0.95	<0.1	<0.03	<0.07
	Nitrite (as N)	mg/L	-		0.033	0.021	0.024	0.015	0.018	0.022	0.006	<1.2	<0.5	<0.95	<0.1	<0.03	<0.07
	Total Oxidised Nitrogen (NOx)	mg/L	2.4*		0.483	0.411	0.254	0.235	0.228	1.022	0.456	1.2	0.5	0.95	0.1	0.03	0.07
	Phosphorus	mg/L	0.03		0.09	0.09	0.09	0.09	0.07	0.3	0.08	0.08	0.07	0.1	0.1	0.2	0.1
	Total Nitrogen (as N)*	mg/L	2.4*		0.9	1	0.8	0.6	0.7	2.4	0.9	1	1.2	2.3	0.8	0.5	0.7
	Heavy Metals																
	Arsenic (dissolved)	ug/L	-		2	2	1	1	1	2	1	<1	<1	2	1	2	2
	Cadmium (dissolved)	ug/L	0.7		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
	Chromium (dissolved)	ug/L	4.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	4.4		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	27		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1		-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
	Copper (dissolved)	ug/L	1.3		2	2	1	1	<1	7	2	4	3	5	1	<1	1
	Iron (dissolved)	ug/L	-		180	260	20	50	20	370	100	160	100	350	50	50	60
	Lead (dissolved)	ug/L	4.4		1	2	<1	<1	<1	2	<1	1	<1	1	<1	<1	<1
	Manganese (dissolved)	ug/L	80		110	64	74	70	77	13	110	45	37	36	140	230	85
	Mercury (dissolved)	ug/L	0.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0005	<0.05
	Nickel (dissolved)	ug/L	7		1	1	1	<1	1	1	1	1	<1	2	1	1	<1
	Zinc (dissolved)	ug/L	8		26	28	26	13	18	510	54	140	31	35	17	27	<1
	PFAS Parameters																
	8:2 FTSA	ug/L	-		<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		0.02	<0.01	0.01	<0.01	0.01	0.01	0.01	<0.02	<0.01	<0.02	0.01	<0.01	<0.01
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		0.03	0.01	0.02	0.02	0.01	<0.01	0.02	<0.01	<0.01	0.02	0.02	<0.01	0.02
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		0.07	0.04	0.04	0.03	0.02	0.02	0.06	0.01	0.02	0.05	0.03	0.02	0.04
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.01		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		<5	<5	<5	<5	<5	<5	<5	<1	<5	<1	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		<2	<2	<2	<2	<2	<2	<2	<5	<2	<5	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<2	<1	<2	<1	<1	<1
	Chrysene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	50		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	-		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	< 50	< 50
	TRH >C10-C40 (total)*	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	< 50
	TRH >C16-C34	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C15-C28	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C29-C36	ug/L	-		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<50
	TRH C6-C10	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	500		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	80		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	75		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	180		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

	SW09 Sampling Results	Units	ANZG (2018) Toxicant default guidelines for Marine Environments	Sample Round	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Pre-Construction	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
				Sample Date	17/05/2022	27/05/2022	3/06/2022	10/06/2022	24/06/2022	4/07/2022	28/07/2022	29/08/2022	5/09/2022	11/10/2022	28/11/2022	16/12/2022	17/01/2023
	Analyte			Lab Report No.	295817	296605	297165	297794	298951	299608	301948	304302	304993	307850	311823	313354	314786
WQO	pH	pH Units	7.0 - 8.5		N/A	8.16	8.19	8.08	8.22	7.8	8.26	8.25	8.22	7.66	7.8	7.75	7.55
	Electrical Conductivity	mS/cm	NA		N/A	1.88	3.02	5.78	4.31	0.417	2.15	1.75	1	1.598	0.557	3.08	2
	Turbidity	NTU	0.5 - 10		N/A	27.1	14.8	1.7	0.9	70.7	64.2	233	35.5	30.8	54.5	60	-
	DO	%	80-110		N/A	63.1	49.7	60.7	53.3	103.8	59	57.5	67.8	40.5	68.8	136	87.9
	Oil & Grease	Visual	None Visible		N/A	Sheen visible	Sheen visible	Sheen visible	Sheen visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible	None Visible
	pH lab	Units	7.0 - 8.5		N/A	8.1	8.1	8	7.9	7.6	8	8	7.7	8.1	7.4	7.6	7.7
	Electrical Conductivity lab	mS/cm	NA		N/A	1.6	2.9	5.1	3.6	0.35	2.1	1.4	0.81	1.5	0.47	3	2
	Turbidity lab	NTU	0.5 - 10		N/A	2.1	3.5	2.7	2.6	23	29	4.2	6.2	11	1.9	3.4	2.9
Toxicants	**Nutrients**																
	Ammonia (as N)	mg/L	0.91		N/A	0.039	0.17	0.26	0.33	0.057	0.49	0.094	0.31	0.2	<0.005	0.086	0.34
	Nitrate (as N)	mg/L	2.4*		N/A	0.77	1.2	1.9	1.1	1.1	1.4	<1.2	<0.11	<1.6	<0.55	<0.2	<0.05
	Nitrite (as N)	mg/L	-		N/A	0.051	0.068	0.094	0.077	0.019	0.058	<1.2	<0.11	<1.6	<0.55	<0.2	<0.05
	Total Oxidised Nitrogen (NOx)	mg/L	2.4*		N/A	0.821	1.268	1.994	1.177	1.119	1.458	1.2	0.11	1.6	0.55	0.2	0.05
	Phosphorus	mg/L	0.03		N/A	0.05	0.09	0.06	0.07	0.1	0.06	0.06	<0.05	0.1	0.1	0.2	0.1
	Total Nitrogen (as N)*	mg/L	2.4*		N/A	1.3	2	2.3	1.6	1.5	1.9	1.2	1.5	2	1	0.8	1
	Heavy Metals																
	Arsenic (dissolved)	ug/L	-		N/A	1	<1	<1	<1	2	2	1	1	2	<1	1	2
	Cadmium (dissolved)	ug/L	0.7		N/A	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chromium (dissolved)	ug/L	4.4		N/A	<1	<1	<1	<1	2	<1	<1	<1	3	<1	<1	<0.1
	Chromium (hexavalent Cr6+ Low Level)	mg/L	4.4		N/A	<0.001	0.001	<0.001	<0.001	<0.001	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Chromium (trivalent)	mg/L	27		N/A	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cobalt (dissolved)	ug/L	1		N/A	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<0.1
	Copper (dissolved)	ug/L	1.3		N/A	2	2	3	1	6	3	3	4	4	3	3	4
	Iron (dissolved)	ug/L	-		N/A	60	20	20	60	250	20	80	140	100	20	80	160
	Lead (dissolved)	ug/L	4.4		N/A	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<0.1
	Manganese (dissolved)	ug/L	80		N/A	100	62	76	74	10	73	81	120	54	<5	9	130
	Mercury (dissolved)	ug/L	0.1		N/A	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nickel (dissolved)	ug/L	7		N/A	2	2	<1	2	<1	3	1	<1	2	<1	3	2
	Zinc (dissolved)	ug/L	8		N/A	16	18	11	16	450	12	18	28	37	29	17	42
	PFAS Parameters																
	8:2 FTSA	ug/L	-		N/A	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	6:2 FTSA	ug/L	-		N/A	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Perfluorooctanoic acid (PFOA)	ug/L	220		N/A	0.02	0.02	0.02	0.02	<0.01	0.02	0.01	0.01	<0.01	0.01	0.01	0.02
	Perfluorohexanesulfonic acid (PFHxS)	ug/L	-		N/A	0.02	0.04	0.04	0.02	<0.01	0.03	0.02	0.01	<0.01	<0.01	0.01	0.02
	Perfluorooctanesulfonic acid (PFOS)	ug/L	0.13		N/A	0.04	0.08	0.06	0.05	0.02	0.05	0.03	0.02	<0.01	<0.01	0.02	0.02
	Polycyclic Aromatic Hydrocarbons																
	Acenaphthene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	ug/L	0.01		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	ug/L	0.01		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene TEQ	ug/L	-		N/A	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Benzo(b&j)fluoranthene	ug/L	-		N/A	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Benzo(g.h.i)perylene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a.h)anthracene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	ug/L	1		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1.2.3-cd)pyrene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	ug/L	50		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenanthrene	ug/L	0.6		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Total PAH*	ug/L	-		N/A	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total Recoverable Hydrocarbons																
	Naphthalene	ug/L	-		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	TRH >C10-C16	ug/L	-		N/A	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH >C10-C16 less Naphthalene (F2)	ug/L	-		N/A	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	< 50	< 50
	TRH >C10-C40 (total)*	ug/L	-		N/A	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	< 50	< 50
	TRH >C16-C34	ug/L	-		N/A	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH >C34-C40	ug/L	-		N/A	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C10-C14	ug/L	-		N/A	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C10-C36 (Total)	ug/L	-		N/A	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	TRH C15-C28	ug/L	-		N/A	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C29-C36	ug/L	-		N/A	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<50
	TRH C6-C10	ug/L	-		N/A	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C10 less BTEX (F1)	ug/L	-		N/A	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	TRH C6-C9	ug/L	-		N/A	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Volatile Organics																
	Benzene	ug/L	500		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	ug/L	80		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	m&p-Xylenes	ug/L	75		N/A	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	o-Xylene	ug/L	350		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	180		N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Attachment C – Groundwater Monitoring Report

Groundwater Monitoring Program

Sydney Metro West – Western Tunnelling Package

July 2022 to January 2023

ISSUE DATE: 13 APRIL 2023

Document Details

Document Title	**Groundwater Monitoring Report**
Project Name	**Sydney Metro West – Western Tunnelling Package**
Client	**Sydney Metro**
GA Project No.	**00013/13065**
Document Reference No.	**SMWSTWTP-GLO-1NL-EN-RPT-000005**
Principal Contractor	**Gamuda Australia**
ABN	**27 632 738 768**
Project Address	**L8, 60 Station Street, Parramatta NSW 2150**

Document Authorisation

Revision	Date	Description of changes	Prepared by	Reviewed by
Rev A	15/03/23	First Draft	P. Carroll	M. Singleton-Fookes
Rev B	17/03/23	Reviewed by GLC	-	D. Mudd
Rev C	13/04/23	Revised draft for submission	P. Carroll	D. Mudd

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Terms and Definitions

Term	Definition
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
COC	Chain of Custody
CoPC	Contaminants of Potential Concern
CTD	Conductivity, Temperature and Depth
DO	Dissolved Oxygen
EC	Electrical Conductivity
EIS	Environmental Impact Statement
GIL	Groundwater Investigation Level
GLC	Gamuda Australia – Laing O'Rourke Consortium
GWMoP	Groundwater Monitoring Program
GWMW	Groundwater Monitoring Well
mAHD	Meters Australian Height Datum
mBTOC	Meters Below Top of Casing
MSF	Maintenance and Stabling Facility
NEPM	National Environmental Protection Measure
ORP	Oxidation Redox Potential
RPD	Relative Percent Difference
SMW	Sydney Metro West
SWL	Standing Water Level
TDS	Total Dissolved Solids
TOC	Top of Casing
WHS	Work Health and Safety Management
WTP	Sydney Metro West Western Tunnelling Package works

1 INTRODUCTION

1.1 Background

Sydney Metro West (SMW) is a new underground railway connecting Greater Parramatta and the Sydney CBD. It will provide fast connections between greater Sydney's two major business centres as well as providing better access to the growing business and entertainment precincts in Olympic Park and Pyrmont, the health and medical research hub at Westmead and the future business and tourism site at The Bays.

An Environmental Impact Statement (EIS) (Jacobs/Arcadis, 2020) for the Concept and Stage 1 assessed the potential groundwater impacts in response to the Secretary Environmental Assessment Requirements issued by the Department of Planning and Environment (DPE). The Project was approved on 11 March 2021 (SSI 10038).

1.2 Project Description

Sydney Metro is delivering the Sydney Metro West project via several different packages, including the Western Tunnelling Package (WTP, the Project).

The WTP Project location is from Westmead to Sydney Olympic Park. Figure 1 is an overview map outlining the extent of the Project.

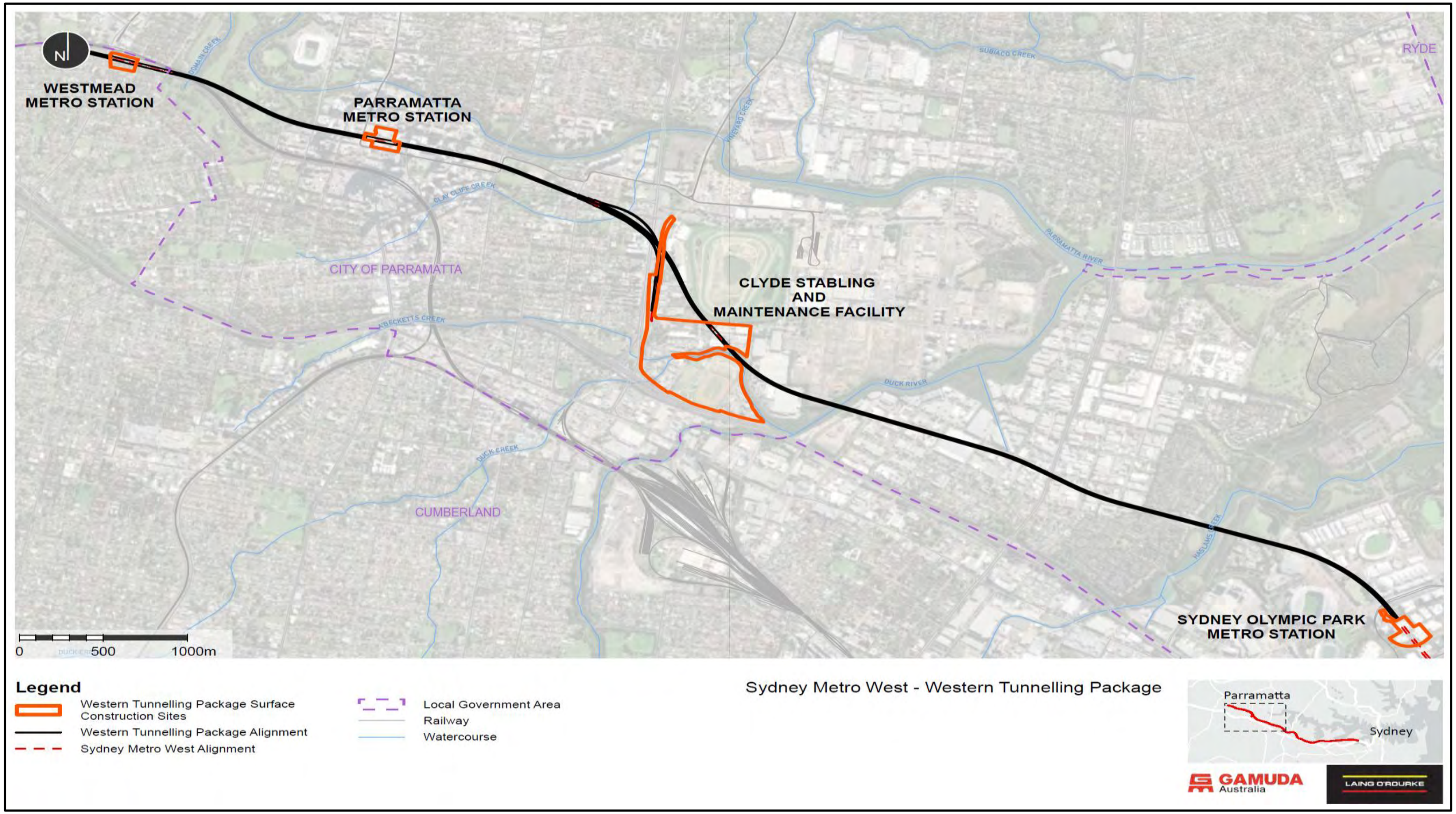

Figure 1 WTP Project Map Overview

1.3 Project Requirements

The Groundwater Monitoring Program (GWMoP) sets out the requirement to develop and issue a Groundwater Monitoring Report (this report), collating groundwater monitoring data. This report collates groundwater monitoring undertaken during the first six months of construction, from 19th July 2022 to 19th January 2023. Monitoring during the January quarterly monitoring round had not been completed prior to the 19th January 2023 and as such has not been included within this report.

The Project requirements relevant to the preparation of this Monitoring Report are identified in Table 1. A document reference is also included to indicate where the requirement is addressed in this Monitoring Report or other documents. Additional monitoring requirements are outlined in the GWMoP and in the Groundwater Management Plan (GWMP).

Table 1 Monitoring Report and Compliance Matrix

Reference	Requirement	Document Reference
Condition of Approval C23	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.	This document
REMM GW3	Additional site investigations would be carried out at creeks or surface water bodies where the additional data review in GW2 shows there is a likely surface water/groundwater interaction. This would involve baseline monitoring of creek flows (streamflow gauging) prior to construction, and baseflow streamflow analysis to confirm the existing groundwater baseflow contribution to streamflow for each creek. Where a significant reduction in baseflow is predicted due to Stage 1, design responses would be implemented at station and shaft excavations to reduce potential baseflow loss.	XXX
REMM GW4	Monitoring of groundwater levels and quality at the site area would occur before, during and after construction. This would also include monitoring of potential contaminants of concern. Groundwater level data would be regularly reviewed during and after construction by a qualified hydrogeologist. Groundwater monitoring data would be provided to the NSW Environment Protection Authority and Department of Planning, Industry, Environment, Water and the Natural Resources Access Regulator for information prior to commencement of construction.	This document

2 DESCRIPTION OF WORKS

2.1 Summary of Works

The construction activities, and associated plant and equipment listed for use, that took place during the reporting period are outlined in Table 2**.** These activities generally aligned with that observed to be in use on site during the works:

Table 2 Construction Activities undertaken during the reporting period

SITE	CONSTRUCTION ACTIVTIES
Westmead	Site preparatory works Initial investigation work Protecting and/or relocating utilities Establishing site amenities Establishing vehicle access and egress points Establishing concrete slabs or piling platforms Delivery of Equipment General operation of ancillary facilities
Parramatta	Site preparatory works Initial investigation work Archaeological clearance Removal and/or relocating utilities Establishing vehicle access and egress points Delivery of equipment General operation of ancillary facilities
Clyde Dive[1]	Construction site establishment/haul roads Demolition of former Rosehill station Establishing piling platforms Tree clearing Shaft excavation and piling Establishing concrete slabs/acoustic shed Bulk earthworks Haul road FRP and hoarding installation General operation of ancillary facilities
Clyde MSF[1]	Construction site establishment/demolition of structures Traffic adjustment Haul roads and site amenities Earthworks Utility trench and services corridor Water conveyance structure – construction Unwin Street Diversion – construction General operation of ancillary facility Utility adjustment works
Rosehill[1]	Diaphragm wall (D-Wall) construction Diaphragm wall (D-Wall) construction Box excavation FRP concrete work Delivery of equipment General operation of ancillary facility

SITE	CONSTRUCTION ACTIVTIES
Sydney Olympic Park	No works undertaken

[1] The Clyde Maintenance Stabling Facility consists of three sub-sites, specifically the Clyde Dive, Clyde MSF and Rosehill construction sites.

2.2 Groundwater Monitoring Objectives

The objectives of the Groundwater Monitoring Report are to provide groundwater data which will enable the assessment of the following:

- Groundwater drawdown/lowering of the water table due to dewatering during tunnel and station excavations and/or drawdown incurred by bed cracking or interference with geological features beneath surface-water bodies and drainage lines.
- Ground movement and settlement due to tunnelling, excavation and/or groundwater drawdown.
- Impacts on groundwater users due to reduced groundwater yields, reduced groundwater quality and/or direct impacts and damage to existing groundwater bores.

3 MONITORING METHODOLOGY

The following was undertaken during the Baseline monitoring (July 2022) and October 2022 Quarterly Monitoring Events:

- Preparation of relevant WHS documentation and management of site access
- Mobilisation to site and completion of a pre – baseline groundwater monitoring well (GWMW) condition assessment (July 2022)
- Mobilisation to site to undertake groundwater level monitoring and groundwater quality sampling at accessible GWMWs
- Laboratory analysis of collected samples for Contaminants of Potential Concern (CoPC)
- Assessment of analytical results against performance criteria/guideline values
- Preparation of factual groundwater monitoring reports (July and October 2022)

3.1 Groundwater Monitoring Network

The original proposed groundwater monitoring network consisted of a total of 75 monitoring locations including 8 vibrating wire piezometers (VWPs). This network would allow for continued monitoring of shallow and deep groundwater levels during both the construction and post-construction phases of the project, and would allow the assessment of any changes in groundwater levels resulting from tunnel and shaft drainage.

A number of the proposed GWMWs being inaccessible and or destroyed as a result of preliminary construction works and as such data was collected from GWMWs installed as part of the Detailed Site Investigations (undertaken by Epic Environmental). These additional GWMWs were assessed as being appropriate and were therefore utilised as replacement locations to meet the monitoring program objectives.

Level loggers being used by WSP (formerly Golder | Douglas Partners) for the monthly monitoring program were not accessed during Epic's July and October monitoring events as data was captured within the WSP monthly monitoring event reporting.

The groundwater monitoring network accessed during July 2022 and October 2022 monitoring events is presented in Table 3.

Table 3 Groundwater Monitoring Well Network

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ADD_BH02	8/08/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ADD_BH02	12/10/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH010	13/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_BH010	10/10/2022	-	✓	✓	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH057_s	15/07/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_BH057_s	12/10/2022	-	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV009	18/07/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV009	12/10/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV010	18/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV010	12/10/2022	-	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV039	14/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV039	12/10/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV042	13/07/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV042	10/10/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV045	14/07/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV045	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV083	22/07/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV083	10/10/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV088	22/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV088	10/10/2022	-	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV089	22/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV089	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV149	12/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV149	10/10/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV283	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV283	10/10/2022	-	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV293	13/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV293	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV294	10/08/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_ENV294	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV295	19/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_ENV295	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV299	19/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_ENV299	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV300	19/07/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Westmead	SMW_ENV300	13/10/2022	-	✓	-	-
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV300_s	19/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_ENV300_s	13/10/2022	-	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH13	14/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH13	12/10/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH25	14/07/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH25	11/10/2022	-	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH30	15/07/2022	✓	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH30	11/10/2022	-	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
Baseline (July 2022) Monitoring Event	Westmead	SMW_WTP_BH31A	10/08/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_WTP_BH31A	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH007	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH007_s	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH043	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH25_s	14/07/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_BH64	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Tunnel	SMW_BH707	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV076	N/A	-	-	-	✓

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV077	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV078	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV090_s	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV090D	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV280	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV283_s	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV293	13/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV293	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV294	10/08/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Westmead	SMW_ENV294	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV295	19/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_ENV295	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_ENV299	19/07/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_ENV299	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV801	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV811	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV812	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV813	N/A	-	-	-	✓

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_ENV814	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_WTP_BH02	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Westmead	SMW_WTP_BH03	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH057	15/07/2022	✓	✓	✓	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH15A	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH16	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH17	N/A	-	-	-	✓
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH18	13/07/2022	✓	✓	-	-
Baseline (July 2022) Monitoring Event	Clyde and Rosehill	SMW_WTP_BH30s	15/07/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Clyde and Rosehill	CZ1_BH13	10/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ2b_BH52	11/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ3b_MW01	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	CZ3b_MW02	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	CZ3b_MW03	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	CZ4e_MW01	11/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ4e_MW02	11/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ4e_MW03	11/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ4w_MW08	19/10/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Clyde and Rosehill	CZ5_MW16	11/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ5_MW23	10/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ5_MW26	10/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ6_MW03	10/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ6_MW04	10/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ6_MW05	19/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	CZ6_MW07	19/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Parramatta	PM_BH14	17/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Parramatta	PM_BH15	17/10/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Parramatta	PM_BH16	17/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Parramatta	PM_BH19	19/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_BH001	N/A	-	-	-	✓
October 2022 Monitoring Event	Westmead	SMW_BH001_s	N/A	-	-	-	✓
October 2022 Monitoring Event	Parramatta	SMW_BH002_w	19/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Parramatta	SMW_BH003_s	17/10/2022	-	✓	-	-
October 2022 Monitoring Event	Parramatta	SMW_BH003_w	N/A	-	-	-	✓
October 2022 Monitoring Event	Parramatta	SMW_BH004_s	19/10/2022	✓	✓	✓	-
October 2022 Monitoring Event	Parramatta	SMW_BH004_w	19/10/2022	✓	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Westmead	SMW_BH008_w	N/A	-	-	-	✓
October 2022 Monitoring Event	Westmead	SMW_BH018	N/A	-	-	-	✓
October 2022 Monitoring Event	Parramatta	SMW_BH049_s	N/A	-	-	-	✓
October 2022 Monitoring Event	Parramatta	SMW_BH049_w	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	SMW_BH057	12/10/2022	-	✓	-	-
October 2022 Monitoring Event	Tunnel	SMW_BH709	N/A	-	-	-	✓
October 2022 Monitoring Event	Tunnel	SMW_BH709_s	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV145	10/10/2022	-	✓	✓	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV148	10/10/2022	-	✓	-	-

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV219	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV224	11/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV234	10/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_ENV284	N/A	-	-	-	✓
October 2022 Monitoring Event	Parramatta	SMW_WTP_BH018	N/A	-	-	-	✓
October 2022 Monitoring Event	Sydney Olympic Park	SMW_WTP_BH024	N/A	-	-	-	✓
October 2022 Monitoring Event	Tunnel	SMW_WTP_BH11	N/A	-	-	-	✓
October 2022 Monitoring Event	Tunnel	SMW_WTP_BH121	N/A	-	-	-	✓
October 2022 Monitoring Event	Tunnel	SMW_WTP_BH19	N/A	-	-	-	✓

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Sydney Olympic Park	SMW_WTP_BH22	N/A	-	-	-	✓
October 2022 Monitoring Event	Sydney Olympic Park	SMW_WTP_BH23	13/10/2022	✓	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH25_s	11/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH26	N/A	-	-	-	✓
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH27	11/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH29	11/10/2022	-	✓	-	-
October 2022 Monitoring Event	Clyde and Rosehill	SMW_WTP_BH30_s	11/10/2022	-	✓	-	-
October 2022 Monitoring Event	Westmead	SMW_WTP_BH32A	N/A	-	-	-	✓
October 2022 Monitoring Event	Westmead	WM_BH01	N/A	-	-	-	✓

Round	Monitoring zone	GWMW ID	Monitoring Date	Water Quality	Manual Water Level	Level logger	Access issue/ destroyed
October 2022 Monitoring Event	Westmead	WM_BH04	13/10/2022	✓	✓	-	-

3.1.1 Salinity monitoring network

Saline intrusion monitoring is achieved by:

- Groundwater sample collection
- Installation of continuous conductivity, temperature and depth (CTD) loggers

Presented in Table 4 are the locations of the sentinel saline intrusion monitoring bores.

The deployment of CTD loggers is proposed to occur following the January 2023 Monitoring event noting that no significant dewatering works have occurred to date at the site.

Table 4 Saline intrusion Groundwater Monitoring Wells

Site	GWMW ID	Screened depth
Parramatta	SMW_BH004_s	6.50-11.50
Parramatta	SMW_BH004_w	20.60-23.60
Clyde Dive	SMW_BH057	23.3-26.3
Clyde MSF	SMW_ENV145	11-14.0m
Clyde MSF	SMW_BH010	23-5-26.5

3.2 Gauging and Sampling Methodology

Water levels were gauged using a 30 m electronic interface probe (IP) during inspection and/or groundwater sampling. Select monitoring bores, as specified in Table 3, were equipped with water level loggers (Solinst, In Situ Troll 100, or In Situ Troll 400) to automatically collect continuous groundwater measurements. Additional bores are planned to be added to the continuous level logging network.

The details of the groundwater quality and level monitoring are presented in Table 5.

Table 5 Groundwater quality and level monitoring methodology

Action	Description/details
Sample collection objectives	Groundwater quality sampling was undertaken by suitably qualified personnel, in accordance with AS/NZS 5667.11:1998 (Water quality – sampling), with the chosen methodology achieving the following objectives: • Sampling equipment should not change the water quality in any way; particular effort was made to avoid cross contamination between GWMWs and appropriate decontamination methods were adopted where reusable equipment was utilised.

Action	Description/details
	• Sufficient water should be removed to ensure the sample is newly derived from the aquifer itself rather than from water that is potentially stagnant in the GWMW. • Methods of collection, storage bottles and transportation to the laboratory should suit the type of analysis required.
Gauging and water levels	Water levels were gauged using a 30 m IP. Selected monitoring bores were equipped with water level loggers (Solinst, In Situ Troll 100, or In Situ Troll 400) to automatically collect continuous groundwater measurements. Where GWMWs were sampled, the standing water level (SWL) and total depth (TD) were gauged manually prior to purging, using a cleaned/decontaminated IP.
Sampling equipment	Samples were collected using the following equipment: • Peristaltic pump and GWMW specific tubing (HDPE and silicon), or • Hydrasleeve, or • Disposable bailer. The predominant method for sampling was via peristaltic pump. Hydrasleeves and disposable bailers were used for deep GWMWs (where the SWL was beyond the working range of the peristaltic pump).
Purging, field measurements and observations	A low-flow standard operating procedure compliant with AS/NZ 5667.11.1998 was developed for the project to ensure that samples are taken consistently in the same way and at the same depth. When sampling low yield GWMP, instead of a low-flow sampling method, a standard groundwater sampling protocol (i.e. volume average sampling) was adopted. Field measurements for physical groundwater parameters were taken using a flow cell and calibrated water quality meter (WQM) fitted with a multi-sensor probe (pH, EC, dissolved oxygen (DO), temperature, and redox potential (ORP)) during purging. A physical description of the sample, including colour, turbidity (visual), odour, and presence of film, sheen or foam were recorded on standardised field sheets. Field parameters were measured in a flow cell to avoid contact between the groundwater and the atmosphere. Readings of field parameters were recorded at a minimum of every three (3) minutes (where the sampling rate was 100 mL/minute or more) or five minutes (if flow rate was less than 100 mL/minute) until parameters stabilised. Stabilisation is defined as three successive stable parameter readings within the limits defined below: • Dissolved Oxygen (DO) ± 10% of reading or ± 0.2 mg/L • Temperature ± 0.2 °C

Action	Description/details
	• pH ± 0.2 pH units • Electrical Conductivity ± 3% of reading • Redox Potential (Eh) ± 20 mV
Sample containers	Groundwater samples were stored in clean laboratory prepared bottles containing the appropriate preservatives.
Sample filtration	Samples for dissolved metal analysis were filtered through a 0.45 µm in-line filter and stored in laboratory prepared bottles containing nitric acid preservative.
Sampling records	Field sampling records were recorded on Survey123 (digital) using unique sampling identification nomenclature consisting of the sample identification, sample date, location, and sampler details. Records can be found in Daily Purge Sheets presented in **Appendix 0**. Details of all quality samples were recorded the Daily Purge Sheets and laboratory COCs.
Decontamination	Equipment was cleaned periodically and between sampling locations to prevent a build-up of sediment and prevent cross-contamination. The following methodology was followed: • Rinse the equipment in tap water • Clean with a 1:100 ratio of Liquinox (PFAS free decontamination detergent concentrate) to deionised water • Rinse with tap water • Thorough rinse with laboratory supplied deionised water • Allow to dry away from dust and direct sunlight
Sample Labelling, Storage and Transport	All samples were clearly labelled with unique identification numbers consisting of the date, sample location and samplers' initials. All samples were bagged and kept in an ice filled Esky prior to dispatch and during transport to a NATA registered laboratory, under chain-of-custody procedures.
Field QAQC	One rinsate blank was collected from the IP and the pump (or other sampling equipment) during each day of sampling. Rinsate samples were analysed for the same analytes as primary samples to ensure cross-contamination had not occurred.

3.3 Laboratory Analysis

Groundwater samples were sent to NATA accredited laboratories for analysis of selected CoPC as listed below:

- General water quality parameters – EC, Total dissolved solids (TDS) , Alkalinity, Hardness
- Major Ions – Calcium, Magnesium, Potassium, Bicarbonate, Sodium, Chloride, Sulfate

- Extended Heavy Metals Suite – Aluminium (Al), Arsenic III (As(III)), Arsenic V (As(V)), Cadmium (Cd), Chromium III (Cr(III)), Chromium VI (Cr(VI)), Copper (Cu), Mercury (Hg), Lead (Pb), Nickel (Ni), Zinc (Zn), Manganese (Mn), Iron (Fe)
- Nutrients – Total Nitrogen, Total Oxidized Nitrogen, Nitrate, Nitrite, Total Ammonia, Ammonium, Total Phosphorous, Total Reactive Phosphorous, Total Reactive Phosphorous, Total Kjeldahl Nitrogen
- Total petroleum hydrocarbons (TPH) – C6 - C10, >C10 - C16, etc.
- Aromatic Hydrocarbons (BTEXN) – Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Pesticides including organochlorine pesticides (OCP) / organophosphorus pesticides (OPP)
- Herbicides
- Volatile Organic Compounds (VOC)/ Semi-Volatile Organic Compounds (SVOC)
- Per- and Poly-Fluoroalkyl Substances (PFAS)

3.4 Quality Assurance/Quality Control Plan

The following quality assurance (QA) and quality control (QC) protocols were proposed for the monitoring program in accordance with protocols outlined in the Gamuda Groundwater Monitoring Program (Gamuda, 2022) which references the following guidelines/standards.

- Australian/New Zealand Standards (1998). Water Quality – Sampling Part 1: Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples. AS/NZS 5667.1:1998, Reconfirmed 2016. Standards Australia, NSW.
- Australian/New Zealand Standards (1998). Water Quality – Sampling Part 11: Guidance on Sampling of Groundwater. AS/NZS 5667.11.1998, Reconfirmed 2016. Standards Australia, NSW.
- HEPA (2020) PFAS National Environmental Management Plan Version 2.0

Details of QAQC procedures are presented in Table 6.

Table 6 QAQC procedures

Action	Description/details
Rinsate samples	Rinsate blanks were collected from the IP during each day of sampling Rinsate blank samples were collected at a rate of one per day of sampling or where uncertainty regarding the potential for contamination was noted.
Duplicate samples	Intra- and inter-laboratory duplicate samples were analysed at a rate of greater than one per ten primary samples (10%), respectively. The results on the duplicate sampling (RPDs) are presented in **Appendix 0**
Trip blank and trip spikes	A sample of laboratory supplied deionised water accompanied the primary samples over the course of the fieldworks and was

Action	Description/details
	submitted to the laboratory for analysis. A laboratory prepared trip blank and trip spike sample was included at a rate of one per laboratory batch.
Equipment calibration	Equipment used during monitoring was calibrated prior to use. Calibration records are presented in **Appendix 0**
Laboratory QA/QC	Laboratory analysis was conducted in accordance with the standard test methods outlined in Schedule B(3) of the NEPM (NEPC, 2013), US EPA, APHA or equivalent modified methods supported by adequate quality control. Laboratory analysis was undertaken by NATA accredited laboratories, Envirolab Services and ALS Laboratory Group. As part of Epic's internal quality control, all the information collected from the laboratory was checked. The results of both laboratories have been assessed and validated progressively using recognised QA procedures and the analytical data is considered of sufficient quality to allow environmental interpretive use. Data validation sheets for each laboratory batch are presented in **Appendix 0**

4 PERFORMANCE CRITERIA

4.1 Groundwater Level Monitoring

Seasonal fluctuation considered within the EIS and supplementary reports will facilitate the assessment and comparison between groundwater level decrease and the predicted drawdown from the Project.

In accordance with the Aquifer Interference Policy (AIP) minimal impact considerations, groundwater level and pore pressures will be assessed against the following criteria where appropriate:

- Less than or equal to 10 % cumulative variation in the water table, allowing for typical climatic “post-water sharing plan” variations, 40 m from any:
  - high priority groundwater dependent ecosystem; or
  - high priority culturally significant site listed in the schedule of the relevant water sharing plan.
- A cumulative maximum of 2 m decline in water level or pore pressure at any water supply bore (as per REMM SG02).

4.2 Groundwater Quality Monitoring

The following criteria were adopted as the indicator values for the performance criteria for groundwater quality. Any changes in groundwater quality will be measured relative to these performance criteria:

- ANZG (2018) 95% Species Protection Criteria for marine water, with criteria for toxicants known to bioaccumulate (mercury and cadmium) assessed based on the 99% species protection criteria. The National Institute of Water and Atmospheric Research (NIWA 2013) value for nitrate toxicity in freshwater is adopted for both fresh and marine water systems.
- NEPM (2013) Groundwater Investigation Levels for marine water and freshwater (Parramatta and Westmead).
- ANZECC (2000) Default Guideline Values for estuaries, with criteria for total oxidised nitrogen of 0.15 mg/L, total nitrogen of 0.3 mg/L, and total phosphorus of 0.03 mg/L.
- PFAS NEMP 2.0 (2020) Interim Marine Water 95% Level of Protection for perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA).

The marine water trigger levels are adopted to represent a more specific metric for impact assessment in Parramatta River catchments.

Additional investigation and monitoring will be triggered when significant reportable changes in groundwater concentrations or levels are identified in accordance with the triggers identified in Table 7.

Table 7 Groundwater Triggers

Trigger Type	Details
1	A parameter exceeding trigger values, which has been recorded during baseline monitoring as non-detect or below trigger value criteria
2	A parameter increasing in concentration over a sustained period (i.e., for at least 2 events) to more than 2x its baseline value in any GWMW, where the baseline value exceeds the NEPM GIL trigger values
3	A parameter increasing in concentration over a sustained period (i.e., for at least 2 events) to more than 2x its baseline value in GWMWs adjacent to excavations, where the baseline value exceeds the ANZECC (2000) or ANZG (2018) trigger value

5 RESULTS

5.1 Registered Groundwater Bores

A review of the registered groundwater bores in the 3 km data buffer of the Project alignment was undertaken on 4 November 2022. A search of the WaterNSW Groundwater Site details (WaterNSW, 2022) and BOM Groundwater Explorer Portal (Bureau of Meteorology, 2022) identified 354 existing registered groundwater bores with limited existing beneficial groundwater use near the project corridor. The findings are summarised in Appendix B.

Regarding potential impacts to extractive groundwater users:

- One extraction well (GW024667) was identified within the predicted drawdown radius of the Clyde Dive (Gamuda (2022) *Hydrogeological Interpretive Report*).

The well (GW024667) is not considered likely to still exist based on the following:

- The extraction well was constructed in 1966 and was constructed using hand tools (hand dug) to a depth of 4.5 m
- The location of the extraction bore is within a recent housing development (confirmed by site field staff and google maps).
- The construction methodology (hand dug) indicates a large diameter well which is highly unlikely to remain on a developed site.

Based on the above, assessment of impacts to extraction activities at GW024667 are considered not to be warranted.

5.2 GWMW Condition Assessment

The condition assessment of the GWMWs across the entire groundwater monitoring network (refer to Table 3) has been carried out between 10 June and 19 October. The assessment was unable to locate several GWMWs as detailed in Table 8. GWMWs listed below were not sampled, and were presumed to be destroyed, were inaccessible due to construction activities on site, or were inaccessible due to other access constraints. GWMWs that were assessed as being suitable for sampling and/or gauging are detailed in Table 3**.**

Table 8 GWMW condition assessment

GWMW ID	Details
October 2022 Monitoring Event	
SMW_ENV089	Unable to find GWMW due to construction activities
SMW_BH018	Unable to find GWMW due to construction activities
SMW_ENV284	Unable to find GWMW due to construction activities
SMW_ENV045	Unable to find GWMW due to construction activities
SMW_WTP_BH26	Unable to access GWMW due to construction activities
CZ3b_MW03	Unable to access GWMW due to construction activities
CZ3b_MW02	Unable to access GWMW due to construction activities
CZ3b_MW01	Unable to access GWMW due to construction activities
SMW_WTP_BH31A	Presumed to be destroyed by construction activities
WM_BH01	Unable to access GWMW due to construction activities
SMW_BH008_w	Unable to access GWMW due to construction activities

GWMW ID	Details
SMW_BH001	Unable to access GWMW due to parked vehicle(s)
SMW_BH001_s	Unable to access GWMW due to parked vehicle(s)
SMW_WTP_BH18	Unable to access GWMW due to access constraints
SMW_WTP_BH11	Unable to access GWMW due to parked vehicle(s)
SMW_WTP_BH19	Unable to access due to GWMW being on private property
SMW_ BH121	Unable to locate GWMW and presumed to be destroyed
SMW_WTP_BH22	Unable to access GWMW without ROL permitting
SMW_ENV709	Unable to access due to GWMW being on private property
SMW_ENV709_s	Unable to access due to GWMW being on private property
SMW_BH003_w	Unable to find GWMW due to construction activities
SMW_BH049_s	Presumed to be destroyed by construction activities within the area
SMW_BH049_w	Presumed to be destroyed by construction activities within the area
July 2022 Monitoring Event	
SMW_BH007	Unable to access GWMW due to construction activities
SMW_ENV076	Unable to access GWMW due to construction activities
SMW_ENV280	Unable to access GWMW due to construction activities
SMW_ENV812	Unable to access GWMW due to construction activities
SMW_WTP_BH15A	Unable to access GWMW due to construction activities
SMW_BH007_s	Unable to access GWMW due to construction activities
SMW_ENV077	Unable to access GWMW due to construction activities
SMW_ENV283	Unable to access GWMW due to construction activities
SMW_ENV813	Unable to access GWMW due to construction activities
SMW_WTP_BH16	Unable to access GWMW due to construction activities
SMW_BH043	Unable to access GWMW due to construction activities
SMW_ENV078	Unable to access GWMW due to construction activities
SMW_ENV283_s	Unable to access GWMW due to construction activities
SMW_ENV814	Unable to access GWMW due to construction activities
SMW_WTP_BH17	Unable to access GWMW due to construction activities
SMW_BH64	Unable to access GWMW due to construction activities
SMW_ENV090_s	Unable to access GWMW due to construction activities
SMW_ENV801	Unable to access GWMW due to construction activities
SMW_WTP_BH02	Unable to access GWMW due to construction activities
SMW_BH707	Unable to access GWMW due to construction activities
SMW_ENV090D	Unable to access GWMW due to construction activities
SMW_ENV811	Unable to access GWMW due to construction activities
SMW_WTP_BH03	Unable to access GWMW due to construction activities
SMW_WTP_BH32A	GWMW was dry at the time of the inspection

GWMW ID	Details
SMW_ENV145	Unable to access GWMW due to parked vehicle(s)

5.3 Groundwater levels

5.3.1 Manual Groundwater Level Monitoring

Water levels were manually measured at GWMWs during the July 2022 (baseline) and October 2022 Monitoring events. The results are presented in Table 9.

Table 9 Manual Groundwater Level Monitoring

GWMW ID	Date	TOC (mAHD)	Total Depth (mbTOC)	SWL (mbTOC)	SWL (mAHD)
SMW_ENV149	12/07/2022	3.39	9.00	1.29	2.10
SMW_BH010	13/07/2022	4.05	27.40	1.29	2.77
SMW_ENV042	13/07/2022	4.42	10.40	1.71	2.71
SMW_ENV293	13/07/2022	5.47	6.00	3.31	2.16
SMW_WTP_BH18	13/07/2022	5.09	9.00	0.70	4.40
SMW_ENV039	14/07/2022	6.40	10.30	4.19	2.22
SMW_ENV045	14/07/2022	4.62	12.50	2.04	2.58
SMW_WTP_BH13	14/07/2022	5.09	7.30	0.58	4.51
SMW_WTP_BH25	14/07/2022	5.36	10.40	2.41	2.95
SMW_WTP_BH25_s	14/07/2022	5.55	5.82	2.65	2.90
SMW_BH057_s	15/07/2022	3.83	5.30	1.58	2.25
SMW_WTP_BH057	15/07/2022	3.84	27.61	1.60	2.24
SMW_WTP_BH30	15/07/2022	4.07	10.30	1.10	2.97
SMW_WTP_BH30_s	15/07/2022	4.09	5.35	1.50	2.59
SMW_ADD_BH02	18/07/2022	13.26	30.00	11.34	1.92
SMW_ENV009	18/07/2022	4.27	7.30	1.65	2.62
SMW_ENV010	18/07/2022	4.27	6.60	1.52	2.75
SMW_ENV295	19/07/2022	29.46	6.44	1.29	28.17
SMW_ENV299	19/07/2022	29.70	6.35	5.83	23.88
SMW_ENV300	19/07/2022	29.76	5.51	4.92	24.84
SMW_ENV300_s	19/07/2022	30.09	1.92	0.99	29.10
SMW_ENV083	22/07/2022	4.93	6.00	0.42	4.51
SMW_ENV088	22/07/2022	4.96	6.00	2.98	1.98
SMW_ENV089	22/07/2022	4.85	6.00	3.30	1.55
SMW_ENV294	10/08/2022	29.11	6.47	3.21	25.90
SMW_WTP_BH31A	10/08/2022	36.25	8.38	4.27	31.98
CZ1_BH13	10/10/2022	Not surveyed	10.50	2.84	Not surveyed

GWMW ID	Date	TOC (mAHD)	Total Depth (mbTOC)	SWL (mbTOC)	SWL (mAHD)
CZ5_MW23	10/10/2022	4.86	5.89	3.11	1.76
CZ5_MW26	10/10/2022	4.53	4.93	2.07	2.47
CZ6_MW03	10/10/2022	Not surveyed	5.33	0.54	Not surveyed
CZ6_MW04	10/10/2022	Not surveyed	5.46	0.64	Not surveyed
SMW_BH010	10/10/2022	4.05	27.50	1.21	2.85
SMW_ENV042	10/10/2022	4.42	10.40	1.74	2.68
SMW_ENV083	10/10/2022	4.93	6.00	0.27	4.66
SMW_ENV088	10/10/2022	4.65	6.00	2.77	1.88
SMW_ENV145	10/10/2022	4.64	40.60	0.98	3.66
SMW_ENV148	10/10/2022	3.47	6.30	1.87	1.60
SMW_ENV149	10/10/2022	3.39	9.00	1.43	1.96
SMW_ENV234	10/10/2022	2.06	5.22	0.49	1.57
SMW_ENV283	10/10/2022	5.53	25.49	1.98	3.55
CZ2b_BH52	11/10/2022	5.19	10.00	2.03	3.16
CZ4e_MW01	11/10/2022	5.04	5.95	1.15	3.89
CZ4e_MW02	11/10/2022	4.98	5.95	2.82	2.16
CZ4e_MW03	11/10/2022	Not surveyed	4.36	1.20	Not surveyed
CZ5_MW16	11/10/2022	4.07	6.00	1.76	2.31
SMW_ENV224	11/10/2022	4.85	4.40	2.50	2.35
SMW_WTP_BH25	11/10/2022	5.36	10.15	2.41	2.96
SMW_WTP_BH25_s	11/10/2022	5.55	5.72	2.19	3.36
SMW_WTP_BH27	11/10/2022	4.72	4.92	0.15	4.57
SMW_WTP_BH29	11/10/2022	4.32	11.70	2.43	1.89
SMW_WTP_BH30	11/10/2022	4.07	10.00	1.43	2.64
SMW_WTP_BH30_s	11/10/2022	4.09	5.38	1.45	2.64
SMW_ADD_BH02	12/10/2022	13.26	30.00	11.57	1.69
SMW_BH057	12/10/2022	4.04	27.50	1.80	2.24
SMW_BH057_s	12/10/2022	3.83	5.30	1.62	2.21
SMW_ENV009	12/10/2022	4.27	7.30	1.71	2.57
SMW_ENV010	12/10/2022	4.27	6.60	1.57	2.70
SMW_ENV039	12/10/2022	6.40	10.30	4.35	2.05
SMW_WTP_BH13	12/10/2022	5.09	7.35	0.64	4.45
SMW_ENV300	13/10/2022	29.76	5.60	5.10	24.66
SMW_ENV300_s	13/10/2022	30.09	2.00	1.12	28.97
SMW_WTP_BH23	13/10/2022	10.06	30.60	6.00	4.06
WM_BH04	13/10/2022	39.67	9.10	6.45	33.22

GWMW ID	Date	TOC (mAHD)	Total Depth (mbTOC)	SWL (mbTOC)	SWL (mAHD)
PM_BH14	17/10/2022	10.31	6.00	4.35	5.96
PM_BH15	17/10/2022	10.20	10.10	4.34	5.86
PM_BH16	17/10/2022	10.24	9.00	4.23	6.01
SMW_BH003_s	17/10/2022	10.57	10.60	6.30	4.27
CZ4w_MW08	19/10/2022	Not surveyed	7.00	2.30	Not surveyed
CZ6_MW05	19/10/2022	Not surveyed	5.20	1.60	Not surveyed
CZ6_MW07	19/10/2022	Not surveyed	4.00	0.60	Not surveyed
PM_BH19	19/10/2022	8.70	10.00	2.54	6.16
SMW_BH002_w	19/10/2022	8.79	34.05	10.80	-2.01
SMW_BH004_s	19/10/2022	8.62	11.40	4.56	4.06
SMW_BH004_w	19/10/2022	8.58	25.00	10.60	-2.02
PM_BH57	4/11/2022	9.24	5.00	1.00	8.24

5.3.2 Automatic Groundwater Level Monitoring

Selected GWMWs have been equipped with water level probes. These GWMWs have provided continuous groundwater level measurements and have been accessed monthly by Golder Douglas Partners (GDP). Deployment of levels loggers in select GWMWs by Epic Environmental is to occur following the cessation of the GDP level logging program in December 2022.

5.3.3 Groundwater Level Trends

It should be noted that no appreciable dewatering works were completed prior to the October 2022 monitoring event and as such, assessment of groundwater level trends has not been undertaken. It is foreseen that in future monitoring periods, groundwater level trends will be able to be compared with the baseline data and October 2022 monitoring event data.

Assessment of drawdown against the specified triggers as per Gamuda (2022) *Groundwater Monitoring Program* will be undertaken following completion of subsequent monitoring rounds.

Review of level logger data provided by GDP for selected GWMWs indicates a degree of seasonal variations, with an increasing trend observed in SMW_BH004_s and SMW_ENV145. Hydrographs from logger data retrieved are presented in **Appendix 0**

5.4 Groundwater quality

A summary of all groundwater exceedances is provided in Table 10**.**

Table 10 Adopted criteria exceedances (July and October 2022)

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
October 2022 Monitoring Event					
C25_MW16	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	3.2

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	8
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	3.5
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	43
CZ1-BH13	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	18
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	2
	Phosphorus	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.03	0.2
CZ25_BH52	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	23
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	46
CZ4e_MW01	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	85
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	7
CZ4e_MW02	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	100
CZ4e_MW03	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	62
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	22
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	3
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.4
CZ4e_MW02	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	6
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	29
PH_BH19	Zinc	ANZG (2018) 95% Freshwaters	µg/L	8	17

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
PM_BH14	PFOS	PFAS NEMP 2020 Freshwater 95%	µg/L	0.13	0.2
	Nitrate (as N)	ANZG (2018) 95% Freshwater / NIWA (2013)	mg/L	2.4	3.8
PM_BH14 (QC05)	PFOS	PFAS NEMP 2020 Freshwater 95%	µg/L	0.13	0.21
	Nitrate (as N)	ANZG (2018) 95% Freshwater / NIWA (2013)	mg/L	2.4	3.9
PM_BH14 (QC06)	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	4
	PFOS	PFAS NEMP 2020 Freshwater 95%	µg/L	0.13	0.2
	Nitrate (as N)	ANZG (2018) 95% Freshwater / NIWA (2013)	mg/L	2.4	3.98
PM_BH15	Zinc	ANZG (2018) 95% Freshwater	µg/L	8	49
	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	7
PM_BH19	Nitrate (as N)	ANZG (2018) 95% Freshwater / NIWA (2013)	mg/L	2.4	26.69
SMW_ADD_BH02	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	92
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	14
	Phosphorus	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.03	0.06
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	7	130
SMW_BH002_W	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	2
	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	2
	Zinc	ANZG (2018) 95% Freshwater	µg/L	8	30
	Zinc	ANZG (2018) 95% Freshwater	µg/L	8	30

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
SMW_BH004_s	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	25
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	8.9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	15
	Nitrate (as N)	ANZG (2018) 95% Freshwater / NIWA (2013)	mg/L	2.4	8.8
SMW_BH004_w	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	12
	Reactive Phosphorus as P	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.008	0.01
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	31
SMW_ENV009	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	9.76
	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	10
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	11
	Phosphorus	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.03	0.4
SMW_ENV009 (QC03)	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	10
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	11
	Phosphorus	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.03	0.4
SMW_ENV009 (QC04)	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	8.8
	Reactive Phosphorus as P	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.009	0.015
SMW_ENV039	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.9
SMW_ENV042	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.4
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	410

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	23
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	1.5
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	44
SMW_ENV083	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	2
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	8
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.5
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	24
SMW_ENV149	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	10
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	110
SMW_ENV224	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	1.4
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	13
SMW_ENV234	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	2.16
	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.9
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	2.2
SMW_ENV234 (QC01)	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	2.4
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	2.7
SMW_ENV234 (QC02)	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	2.9
SMW_WTP_BH13	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	6
SMW_WTP_BH23	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	38
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.5

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	28
SMW_WTP_BH25	Ammonia as N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.7
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	23
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	2
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	25
WM_BH04	Nickel	ANZG (2018) 95% Freshwater	µg/L	11	20
	Zinc	ANZG (2018) 95% Freshwater	µg/L	8	38
	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	2
CZ4w_MW08	Nitrogen (Total Oxidised)	ANZECC (2000) Estuaries	mg/L	0.015	0.03
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.5
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	42
CZ6_MW07	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	37
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	11
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.7
	PFOS	PFAS NEMP 2020 Interim Marine Water 95%	µg/L	0.13	0.29
CZ6_MW05	Fluoranthene	ANZG (2018) 95% Marine Waters	µg/L	1.4	2
	Benzo(a) pyrene	ANZG (2018) 95% Marine Waters	µg/L	0.2	1
	Copper	ANZG (2018) 95% Marine Waters	mg/L	1.3	7
	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	0.8
July 2022 Monitoring Event					

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
SMW_ WTP_BH31A	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	5
SMW_BH010	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	7.1
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	8.2
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	860
SMW_BH057_s	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.4
SMW_ENV_293	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	1.4
SMW_ENV_299	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	200
SMW_ENV_300	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	540
SMW_ENV009	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	9.9
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	13
SMW_ENV010	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	4.1
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	5.5
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	2
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	8
SMW_ENV039	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.9
SMW_ENV042	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.4
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	1.4
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	290
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	25
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	39
SMW_ENV045	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.9

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	5
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	43
SMW_ENV083	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.4
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	2
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	24
SMW_ENV088	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	6.4
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	7.9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	35
SMW_ENV089	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	17
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	13
SMW_ENV149	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.7
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	10
SMW_ENV294	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	14
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	8
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	34
	Isopropylbenzene	ANZG (2018) 95%	µg/L	30	31
SMW_ENV295	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.7
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	9
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	25
SMW_ENV299	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	7

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	59
SMW_ENV300	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	3
SMW_ENV300	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	130
SMW_ENV300_s	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.8
SMW_ENV300_s	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	3
SMW_WTP_BH057	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	2.3
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	2.4
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	16
SMW_WTP_BH13	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	2
SMW_WTP_BH18	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.1
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	1
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	8
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	23
SMW_WTP_BH25	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.9
SMW_WTP_BH25	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	2.6
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	13
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	370
SMW_WTP_BH25_s	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	16
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	22
	Chlorobenzene	ANZG (2018) 95% Marine Waters	µg/L	55	1500
SMW_WTP_BH30	Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	1.3

GWMW ID	Parameter	Criteria	Unit	Threshold	Result
	Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	1.2
	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	2
	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	16
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	18
SMW_WTP_BH30s	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	25
	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	50
SMW_WTP_BH31A	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	16

5.4.1 Performance Criteria Assessment

The trigger value exceedances are identified as increases in concentrations when compared with baseline values (defined by baseline monitoring and Epic Environmental 2022 Detailed Site Investigation data). Additional investigation and monitoring are triggered when significant reportable changes in groundwater concentrations or levels are identified as per the groundwater triggers presented in Table 7**.**

At present, the number of post baseline monitoring rounds undertaken to date (one, October 2022) is insufficient to allow the assessment of 'sustained increasing trends' as defined in Gamuda (2022) *Groundwater Monitoring Program* and as such actioning of monthly monitoring events was not undertaken.

The following notable increases and newly identified exceedances of adopted criteria (ANZG/ANZECC/NEPM) as of the October 2022 Monitoring Event are presented in Table 11. The groundwater quality trends will be further assessed based on the ongoing groundwater monitoring events and trigger response measures (monthly monitoring or management responses) will be undertaken as required.

Table 11 Notable Exceedances and Increases in Concentration (October 2022)

GWMW	Analyte	Guideline	Unit	Criteria	Baseline value	Oct 22 value	Trigger type
PM_BH15	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	<1	7	1
SMW_BH004_s	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	1	25	1

GWMW	Analyte	Guideline	Unit	Criteria	Baseline value	Oct 22 value	Trigger type
SMW_BH004_s	Nitrate (as N)	ANZG (2018) 95% Freshwater / NIWA (2013)	mg/L	2.4	1.42	8.8	1
SMW_BH004_s	Nitrogen (Total)	ANZECC (2000) Estuaries	mg/L	0.3	1.8	8.9	3
SMW_BH004_w	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	1	12	1
SMW_ENV009 (QC04)	Reactive Phosphorus as P	ANZECC 2000 SE Aust Triggers - Estuaries	mg/L	0.009	<0.005	0.015	1
SMW_ENV149	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	12	110	1
SMW_WTP_BH13	Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	2	6	3
SMW_WTP_BH23	Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	15	38	3
SMW_WTP_BH23	Zinc	ANZG (2018) 95% Marine Waters	µg/L	8	<5	28	1
WM_BH04	Copper	ANZG (2018) 95% Freshwater	µg/L	1.4	<1	2	1

5.5 Conclusion

Baseline monitoring was completed in July 2022 (12 July – 19 August 2022) and the first quarterly construction monitoring was completed in October 2022 (10 October – 19 October 2022).

The groundwater monitoring network has evolved from the original proposed network as a result of construction activities at the sites. The network for each monitoring round is anticipated to evolve to meet the groundwater monitoring plan objectives as the sites continue to change.

During the October 2022 monitoring event, some results were able to be compared with applicable baseline results from various sources. A number of GWMWs had no applicable reference data available for comparison (newly installed GWMWs).

At present, insufficient data (minimum 3 three rounds required) is available to determine concentration and/or groundwater level drawdown trends with respect to baseline conditions and as such no trigger value exceedances have been identified which required additional monthly monitoring (as defined by Gamuda (2022) Groundwater Monitoring Program).

The groundwater monitoring network will be updated based on the GWMW condition assessment for future monitoring events with consideration given to ongoing works at the site.

The monitoring trends of groundwater decline (in both quality and quantity, if any) will be investigated based on further monitoring events to identify the trends in analytes concentrations and groundwater drawdown.

APPENDIX A – FIGURES

epic ENVIRONMENTAL

0 50 100 150 200 m

Scale: 1: 3,000@ A3

Datum: GDA2020 Projection: MGA zone 56

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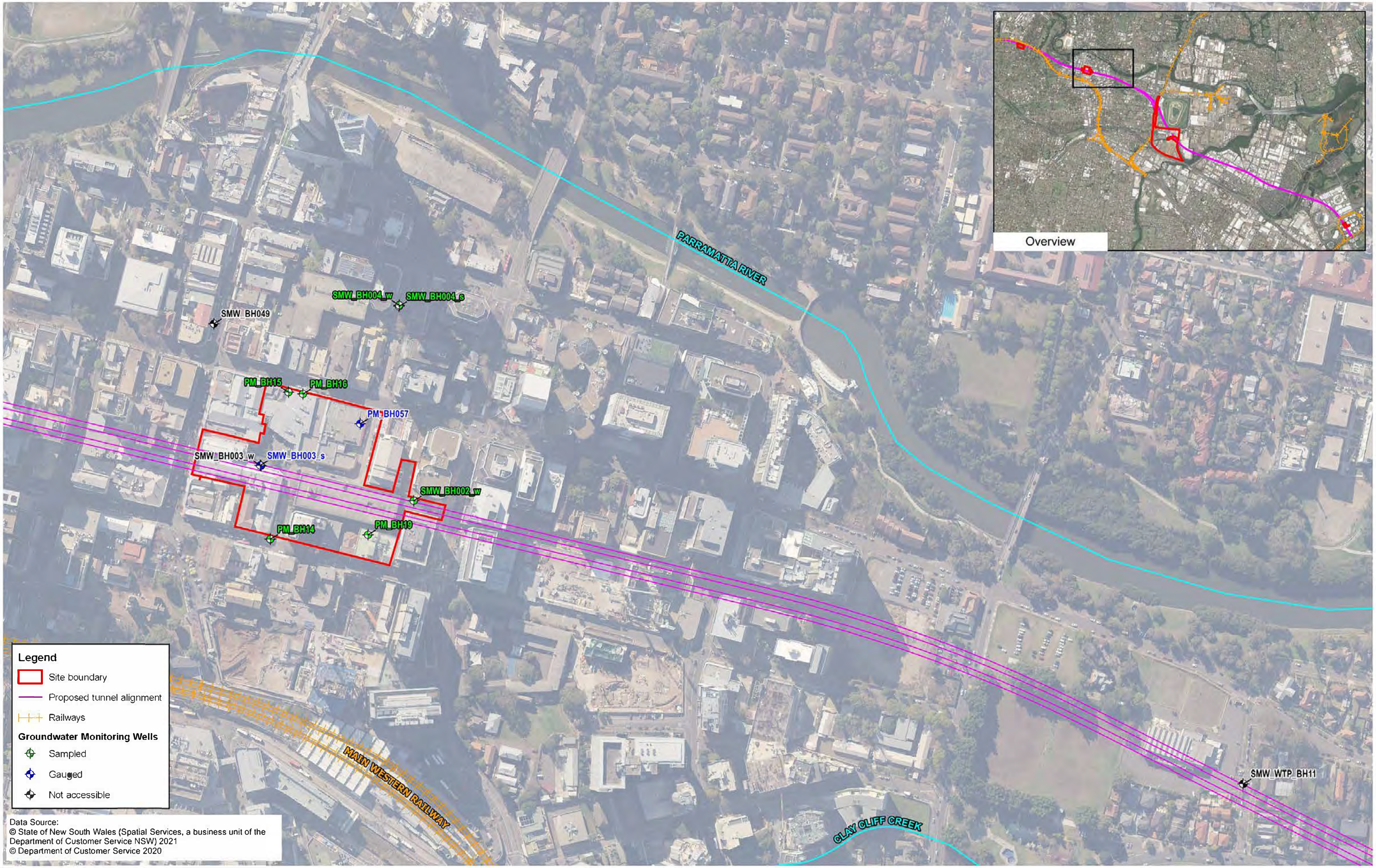
Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package

Figure F1
Groundwater Monitoring Program – October Round (Page 1 of 4)

SC210108.01 Rev A 12/12/2022



0 50 100 150 200 m

Scale: 1: 3,500@ A3

Datum: GDA2020 Projection: MGA zone 56

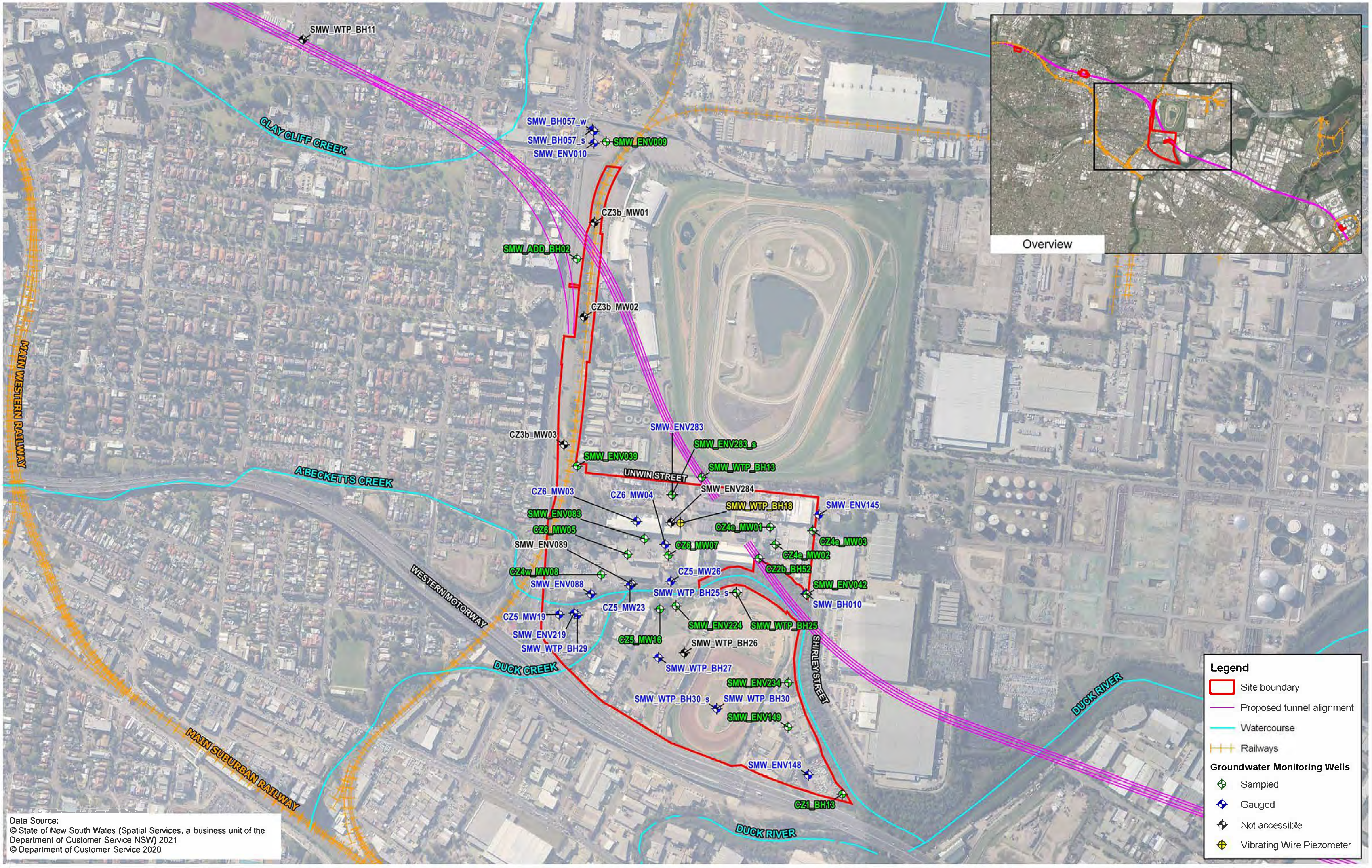
Draft

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package

Figure F1
Groundwater Monitoring Program – October Round (Page 2 of 4)

SC210108.01 Rev A 12/12/2022

©QGIS 2019 File Path: E:\GIS\Projects\2021\SC2021\SC210108.01 Gamuda SMW WTP Enviro Support\Workspaces\SC210108.03 Groundwater Monitoring Program\Groundwater monitoring program\Figure F2 Groundwater Monitoring Program – October Round.qgz



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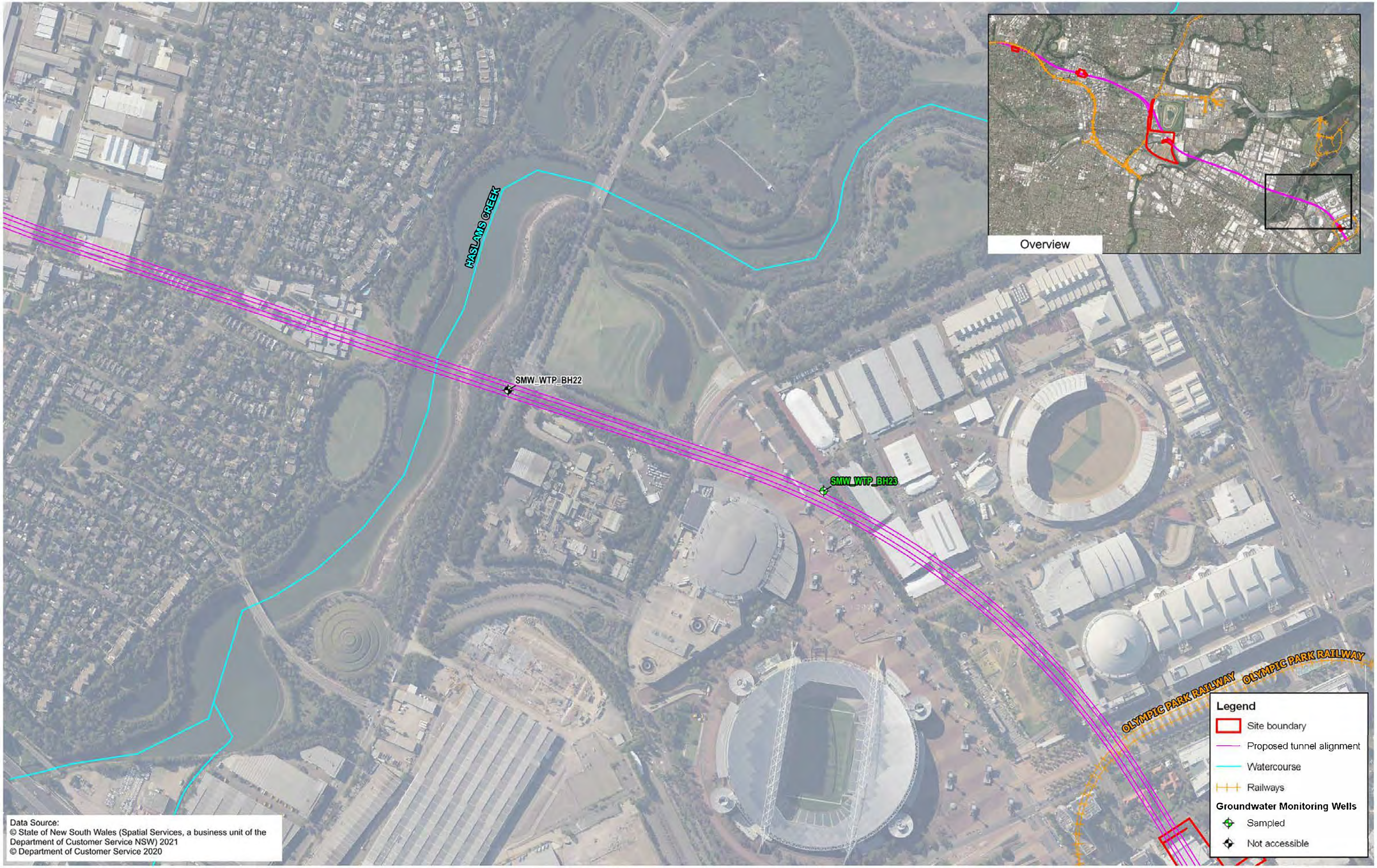
Sydney Metro West Western Tunnelling Package

Figure F1
Groundwater Monitoring Program – October Round (Page 3 of 4)

SC210108.01 Rev A 12/12/2022



Data Source:
© State of New South Wales (Spatial Services, a business unit of the Department of Customer Service NSW) 2021
© Department of Customer Service 2020

0 50 100 150 200 m

Scale: 1: 5,000@ A3

Datum: GDA2020 Projection: MGA zone 56

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Sydney Metro West Western Tunnelling Package

Figure F2
Groundwater Monitoring Program – October Round (Page 4 of 4)

SC210108.01 Rev A 12/12/2022

APPENDIX B - TABLES

				Arsenic Speciation			NA		Amino Aliphatics		Physico-Chemical & Major Ions									
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Arsenic Acid, As (V)	Arsenious Acid, As (III)	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	Redox Potential (Lab)	pH (Lab)	Dissolved Oxygen	TDS	Chloride	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mV	-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				1	1	1	1	1	5	5			0.1	5	1	1	5	5	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	370	28	83	<5	<5	5	5
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	490	37	110	<5	<5	24	24
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	5.5	-	1,200	210	570	<5	<5	51	51
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	6.4	-	2,400	450	1,100	<5	<5	220	220
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	5.1	-	380	32	190	<5	<5	21	21
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	7.6	-	2,800	430	630	<5	<5	1,100	1,100

Comments

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation									Amino Aromatics			Inorganics	Anilines			
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Ionic Balance	Hardness as CaCO3 (filtered)	1-naphthylamine	2-naphthylamine	Diphenylamine	Electrical Conductivity (Non Compensated)	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline
				µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	%	mgCaCO3/L	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.5	0.5	0.5	0.5			5	5	5	1	5	5	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.5	0.7	58	<0.5	-1.0	<3	<5	<5	<5	-	<5	<5	<5	<5
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.5	1	88	0.7	1.0	4.5	<5	<5	<5	-	<5	<5	<5	<5
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	3	11	380	7.4	-2.0	50	-	-	-	2,000	-	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	6.5	33	650	14	-3.0	150	-	-	-	4,000	-	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	0.7	2	130	1	7.0	9.6	-	-	-	630	-	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	41	79	700	30	-5.0	430	-	-	-	4,200	-	-	-	-

Comments

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation					Nutrients											
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	2-methyl-5-nitroaniline	Aniline	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Organic Nitrogen as N	Nitrogen (Total Oxidised)	Nitrate (as N) (filtered)	Nitrite (as N) (filtered)	Nitrogen (Total)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)
				µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L
EQL				1	1	1	5	5	0.005	0.1	0.2	0.005	0.005	0.005	0.1	0.005	0.01	1	0.1	0.001
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								250	0.9								0.055		0.2	0.001
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters								*8*									*0.055 | 0.055*		*0.2*	*0.001*
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<0.005	-	-	0.64	-	-	0.8	0.006	*0.18*	<1	<0.1	<0.005
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<5	0.012	-	-	0.005	-	-	0.7	0.27	*0.09*	1	<0.1	<0.005
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	0.03	-	-	-	*0.48*	<1	0.1	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	0.05	-	-	-	*2.1*	<1	0.2	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	<0.005	-	-	-	*0.08*	1	<0.1	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	2.3	-	-	-	0.01	2	<0.1	-

Comments

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Metals														
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Chromium (Trivalent)	Chromium (III+VI) (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Silicon	Zinc (filtered)	Benzene	Toluene	Ethylbenzene
				µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.005	1	1	0.01	1	0.005	0.05	1	0.05	200	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)									1.4		3.4	1.9	0.6	11			8	950	180	80
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters									*1.4*		*3.4*	*1.9*	*0.06*	*11*			*8*	*950*		
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	-	<1	*3*	0.05	<1	0.008	<0.05	2	<0.05	-	*10*	<1	<1	<1
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	-	<1	*9*	3	<1	0.083	<0.05	4	0.6	-	*25*	270	<1	<1
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	<1	*7*	0.04	<1	*2*	<0.05	*59*	-	31,000	*200*	<1	<1	<1
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	<1	*3*	0.03	<1	*4.9*	<0.05	*130*	-	8,200	*540*	<1	<1	<1
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	1	*14*	1.7	<1	0.14	<0.05	8	-	49,000	*34*	<1	<1	<1
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	<1	*5*	<0.01	<1	0.17	<0.05	5	-	9,300	*16*	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			BTEX				TRH									
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Xylene (m & p)	Xylene (o)	Naphthalene	Naphthalene (BTEX)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	2	1	1	1	10	10	50	50	100	100	50	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								350	16	16										30
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters								*350*	*16*	*16*										
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	13	4	*25*	*44*	450	160	950	910	150	<100	1,100	4	<1	34
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<2	<1	<1	<1	120	120	<50	<50	<100	<100	<50	<1	<1	31
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			MAH						Halogenated Hydrocarbons							
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	1	1	10	10	10	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																		270	400	6,500
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				*6,500*
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	2	6	<1	2	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	3	<1	2	<1	<10	<10	<10	<1	<1	<1	<1
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Chlorinated Hydrocarbons													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								700				1,900	900	1,100					240	
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation																
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	10	1	10	1	1	1	1	5	2	1	1	1	1	10
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								770							360	330	70			100
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters															*290*					
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Halogenated Benzenes												VOCs	
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	Pentachloroethane	2-(acetylamino) fluorene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	2	1	1	1	1	1	1	1	1	0.2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)							10	7	170	160	260	60				55	0.1	2	80	
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters							*3*		*85*	*160*	*260*	*60*								
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			SVOCs													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Isosafrole	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	5	5	5	5	5	5	5	5	5	2	5	10	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation				PAH												
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Phenacetin	Benzo(b+j+k)fluoranthene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene
				µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	5	0.002	2	2	2	2	1	1	1	1	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)															0.4		0.2			
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	3	<2	<2	2	<1	<1	<1	<1	<1	<1	<1
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

	Arsenic Speciation										TPH						
	Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of positives)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	1	1	1	1	1	0.005	0.001	10	50	100	100	50	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)				1.4			2									20	
PFAS NEMP 2020 Freshwater 95%																	
NEPM 2013 Table 1C GILs, Fresh Waters																*10*	

Sample Code	Field ID	Date	Matrix Type	Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of positives)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0.027	380	920	320	<100	1,200	<2	<2
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	56	71	<100	<100	70	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

Sample Code	Field ID	Date	Matrix Type	Arsenic Speciation			Phenols													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	2,4-Dinitrophenol	2,4,6-Trichlorophenol	2,6-D	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	3&4-Methylphenol (m&p-cresol)	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Picloram
				µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	10	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)							0.045	20		160			490							
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters							*0.045*	*3*		*120*			*340*							
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation						PCBs							Explosives			
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Pentachlorophenol	Phenolics Total	Phenol	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	1,3-Dinitrobenzene	2,6-dinitrotoluene	Nitrobenzene	4,4-DDE
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L
EQL				1	1	1	10	50	2	2	2	2	2	2	2	2	0.005	5	5	0.2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)							10		320				0.6		0.03				550	
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters							*3.6*		*320*				*0.3*		*0.01*					
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<2
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<10	-	4	-	-	-	-	-	-	-	<0.005	<5	<5	<2
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Organochlorine Pesticides													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)														0.01					0.02	
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters														*0.006*					*0.01*	
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Comments

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation																
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0002	2	0.2	0.2	0.2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								0.2	0.09			0.02		0.01			0.01		0.15	
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters								*0.2*	*0.01*					*0.01*			*0.01*		*0.15*	
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Organophosphorous Pesticides													Pesticides
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Parathion	Phorate	Ronnel	Safrole	Carbazole
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	5	0.2	0.2	2	2	0.2	2	2	2	0.2	2	0.2	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)									0.2			0.05				0.004				
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters									*0.2*			*0.05*				*0.004*				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Herbicides														
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	Hedonal	2,4-Dichlorprop	2,4,6-Trichlorophenoxy-acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Chlorophenoxyacetic acid	4-Chlorophenoxy acetic acid	Acifluorfen	Bentazone	Bromoxynil	Chloramben	Clopyralid	Dicamba
				µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.0005	0.0005	0.0005	0.0005	0.0005	0.5	0.0005	0.0005	0.002	1	0.5	1	0.5	0.5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)							0.036		0.28											
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters							*0.036*		*0.28*											
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.02	<10	<5	<10	<5	<5
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation										Perfluoroalkyl Sulfonic Acids							
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Dinoseb	Fluroxypyr	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop	Triclopyr	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	Perfluorobutanoic acid (PFBA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	0.5	0.5	0.5	0.0005	0.01	0.01	0.0002	0.01	0.0002	0.02	0.0002	0.02
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																	0.13			
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<10	<10	<5	<5	<5	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	0.02	<0.01	0.03	<0.01	0.03	<0.02	0.06	<0.02
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	0.0029	-	0.0029	-	0.0058	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	0.0006	-	0.0006	-

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

Table T1 - Groundwater Monitoring Results - Freshwater

				Arsenic Speciation			Perfluoroalkyl Carboxylic Acid										Perfluoroalkyl Sulfor			
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.02	0.01	0.01	0.0002	0.01	0.02	0.02	0.05	0.1	0.5	0.1	0.05	0.1	0.05
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%										220										
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	0.05	0.08	0.03	0.16	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	0.0004	-	-	-	-	-	-	-	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	0.011	-	-	-	-	-	-	-	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			amides			Fluorotelomer Sulfonic Acids				PFAS Totals		Nitroaromatics	Organic	Other		
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	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)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of PFAS	Pentachloronitrobenzene	Methane	3,5-Dichlorobenzoic acid	Acetophenone	Actril (Ioxynil)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	mg/L
EQL				1	1	1	0.5	0.02	0.02	0.01	0.0004	0.0004	0.02	0.0002	0.0002	5	0.005	0.0005	5	0.001
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.005	<5	<0.01
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.18	0.39	<5	-	<0.0005	<5	<0.001
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	<0.0004	<0.0004	-	0.0004	0.0004	-	-	-	-	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	<0.0004	<0.0004	-	<0.0002	<0.0002	-	-	-	-	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	<0.0004	<0.0004	-	0.014	0.017	-	-	-	-	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	<0.0004	<0.0004	-	0.0006	0.0006	-	-	-	-	-

Comments

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation				Phthalates						Solvents	
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Phosalone	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Cyclohexane	Isophorone
				µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL				1	1	1	0.002	50	10	10	10	10	10	0.001	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)										1,000	3,700	26			
PFAS NEMP 2020 Freshwater 95%															
NEPM 2013 Table 1C GILs, Fresh Waters										*1,000*	*3,700*	*10*			
Sample Code	**Field ID**	**Date**	**Matrix Type**												
300822-1	**SMW_ENV300_s**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300822-2	**SMW_ENV295**	**19 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	0.036	<5
302829-3	**SMW_ENV299**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
302829-4	**SMW_ENV300**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
302829-5	**SMW_ENV294**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.005	-
302829-6	**SMW_WTP_BH31A**	**10 Aug 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-

Comments

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			NA		Amino Aliphatics		Physico-Chemical & Major Ions									
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Arsenic Acid, As (V)	Arsenious Acid, As (III)	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	Redox Potential (Lab)	pH (Lab)	Dissolved Oxygen	TDS	Chloride	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mV	-	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				1	1	1	1	1	5	5			0.1	5	1	1	5	5	5	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries												7-8.5								
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	6.8	-	2,800	1,200	280	<5	<5	540	540
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	6.1	-	16,000	8,900	550	<5	<5	320	320
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	5.7	-	34,000	16,000	1,700	<5	<5	84	84
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	6.4	-	40,000	18,000	1,300	<5	<5	590	590
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	6.3	-	7,000	3,100	320	<5	<5	220	220
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	6.4	-	4,100	2,200	210	<5	<5	210	210
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	5.9	-	13,000	6,200	650	<5	<5	130	130
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	6.4	-	11,000	5,600	450	<5	<5	310	310
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	1	<1	<5	<5	-	-	-	2,700	1,400	83	<5	<5	280	280
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	970	180	66	<5	<5	290	290
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	25,000	10,000	3,800	<5	<5	190	190
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	2,100	350	230	<5	<5	1,400	1,400
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	24,000	11,000	1,800	<5	<5	490	490
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	-	-	<5	<5	101	6.1	9.1	9,100	3,900	900	<5	<5	200	200
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	-	-	<5	<5	-15	6.0	8.3	21,000	9,900	1,200	<5	<5	250	250
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	-	-	<5	<5	171	6.3	7.8	23,000	9,300	740	<5	<5	710	710
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	-	-	<5	<5	123	5.5	6.3	18,000	8,400	1,000	<5	<5	77	77
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	21,000	11,000	980	<5	<5	580	580
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	29,000	12,000	1,600	<5	<5	310	310
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	1,100	220	300	<5	<5	230	230
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	2	<5	<5	-	-	-	5,400	2,500	26	<5	<5	850	850
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	4	21	<5	<5	-	-	-	940	150	260	<5	<5	230	230
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	5	<5	<5	-	-	-	830	180	51	<5	<5	580	580
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	4,200	3,200	540	<5	<5	80	80
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<5	<5	-	-	-	1,000	280	56	<5	<5	440	440
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	16	25	<5	<5	-	-	-	3,300	570	1,600	<5	<5	96	96

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation									Amino Aromatics			Inorganics	Anilines			
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Ionic Balance	Hardness as CaCO3 (filtered)	1-naphthylamine	2-naphthylamine	Diphenylamine	Electrical Conductivity (Non Compensated)	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline
				µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	%	mgCaCO3/L	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.5	0.5	0.5	0.5			5	5	5	1	5	5	5	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	SMW_ENV237	12 Jul 2022	Water	-	-	-	170	230	1,200	24	24	1,300	-	-	-	5,100	-	-	-	-
300303-2	SMW_ENV149	12 Jul 2022	Water	-	-	-	240	690	3,900	10	-5.0	3,400	-	-	-	26,000	-	-	-	-
300303-3	SMW_ENV241	12 Jul 2022	Water	-	-	-	510	510	7,400	82	-11	3,300	-	-	-	43,000	-	-	-	-
300303-4	SMW_ENV234	12 Jul 2022	Water	-	-	-	800	1,500	8,100	87	-3.0	8,200	-	-	-	48,000	-	-	-	-
300303-5	SMW_ENV209	12 Jul 2022	Water	-	-	-	65	190	1,400	4	-9.0	930	-	-	-	10,000	-	-	-	-
300303-6	SMW_ENV243	12 Jul 2022	Water	-	-	-	29	86	1,100	2	-11	420	-	-	-	7,600	-	-	-	-
300303-7	SMW_ENV208	12 Jul 2022	Water	-	-	-	100	400	2,900	6.4	-8.0	1,900	-	-	-	19,000	-	-	-	-
300303-8	SMW_ENV207	12 Jul 2022	Water	-	-	-	170	430	2,500	7.2	-6.0	2,200	-	-	-	17,000	-	-	-	-
300470-1	ENV_045	14 Jul 2022	Water	<1	<1	<1	100	98	810	11	3.0	660	<5	<5	<5	-	<5	<5	<5	<5
300470-2	WTP_BH13	14 Jul 2022	Water	<1	<1	<1	18	22	220	9.2	1.0	130	<5	<5	<5	-	<5	<5	<5	<5
300470-3	WTP_BH25	14 Jul 2022	Water	<1	<1	<1	380	870	5,700	140	-3.0	4,500	<5	<5	<5	-	<5	<5	<5	<5
300470-4	WTP_BH25_s	14 Jul 2022	Water	<1	<1	<1	240	110	340	26	-7.0	1,000	<5	<5	<5	-	<5	<5	10	<5
300470-4	WTP_BH25_s	14 Jul 2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	ENV_039	14 Jul 2022	Water	<1	<1	<1	340	930	5,300	26	-3.0	4,700	<5	<5	<5	-	<5	<5	<5	<5
300546-1	ENV_293	13 Jul 2022	Water	-	-	-	120	330	2,000	11	-4.0	1,600	<5	<5	<5	13,000	<5	<5	<5	<5
300546-2	WTP_BH18	13 Jul 2022	Water	-	-	-	270	810	4,700	15	-4.0	4,000	<5	<5	<5	29,000	<5	<5	<5	<5
300546-3	SMW_BH010	13 Jul 2022	Water	-	-	-	930	730	3,600	76	-4.0	5,400	<5	<5	<5	27,000	<5	<5	<5	<5
300546-4	ENV_042	13 Jul 2022	Water	-	-	-	190	700	3,800	15	-6.0	3,300	<5	<5	<5	24,000	<5	<5	<5	<5
300573-1	SMW_WTP_BH030	15 Jul 2022	Water	<1	<1	<1	770	950	6,000	23	4.0	5,800	<5	<5	<5	-	<5	<5	<5	<5
300573-2	SMW_WTP_BH030_s	15 Jul 2022	Water	<1	<1	<1	570	1,400	6,100	16	3.0	7,200	<5	<5	<5	-	<5	<5	<5	<5
300573-3	SMW_BH057_s	15 Jul 2022	Water	<1	<1	<1	36	66	220	19	0	360	<5	<5	<5	-	<5	<5	<5	<5
300573-4	SMW_BH057	15 Jul 2022	Water	<1	<1	<1	260	220	1,200	37	-3.0	1,600	<5	<5	<5	-	<5	<5	<5	<5
300679-1	SMW_ENV010	18 Jul 2022	Water	<1	<1	<1	10	26	200	22	-7.0	130	<5	<5	<5	-	<5	<5	<5	<5
300679-2	SMW_ENV009	18 Jul 2022	Water	<1	<1	<1	86	43	150	16	-8.0	390	<5	<5	<5	-	<5	<5	<5	<5
301190-1	SMW_ENV083	22 Jul 2022	Water	<1	<1	<1	56	160	1,200	4	-19	780	<5	<5	<5	-	<5	<5	<5	<5
301190-2	SMW_ENV089	22 Jul 2022	Water	<1	<1	<1	92	160	1,800	180	70	880	<5	<5	<5	-	<5	<5	<5	<5
301190-3	SWM_EN088	22 Jul 2022	Water	<1	<1	<1	43	29	200	70	-54	230	<5	<5	<5	-	<5	<5	<5	<5

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation					Nutrients											
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	2-methyl-5-nitroaniline	Aniline	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Organic Nitrogen as N	Nitrogen (Total Oxidised)	Nitrate (as N) (filtered)	Nitrite (as N) (filtered)	Nitrogen (Total)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)
				µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L
EQL				1	1	1	5	5	0.005	0.1	0.2	0.005	0.005	0.005	0.1	0.005	0.01	1	0.1	0.001
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)									0.91										5.5	0.0044
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries												0.015			0.3	0.005				
NEPM 2013 Table 1C GILs, Fresh Waters								*8*									*0.055 | 0.055*		*0.2*	*0.001*
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	SMW_ENV237	12 Jul 2022	Water	-	-	-	-	-	0.29	0.7	0.4	0.02	0.02	<0.005	0.8	<0.005	-	2	<0.1	<0.005
300303-2	SMW_ENV149	12 Jul 2022	Water	-	-	-	-	-	0.63	0.7	<0.2	<0.005	<0.005	<0.005	0.7	<0.05	<0.01	5	<0.1	<0.050
300303-3	SMW_ENV241	12 Jul 2022	Water	-	-	-	-	-	0.80	1.0	0.2	<0.005	<0.005	<0.005	1.0	<0.005	-	<1	0.2	<0.005
300303-4	SMW_ENV234	12 Jul 2022	Water	-	-	-	-	-	1.4	1.6	<0.2	<0.01	<0.01	<0.010	1.6	<0.05	-	6	<0.1	<0.050
300303-5	SMW_ENV209	12 Jul 2022	Water	-	-	-	-	-	0.036	0.2	<0.2	0.01	0.01	<0.005	0.2	<0.005	-	<1	<0.1	<0.005
300303-6	SMW_ENV243	12 Jul 2022	Water	-	-	-	-	-	0.020	0.1	<0.2	0.1	0.14	<0.005	0.3	<0.005	-	<1	<0.1	<0.005
300303-7	SMW_ENV208	12 Jul 2022	Water	-	-	-	-	-	0.044	0.2	<0.2	<0.005	<0.005	<0.005	0.2	<0.005	-	<1	<0.1	<0.005
300303-8	SMW_ENV207	12 Jul 2022	Water	-	-	-	-	-	0.057	0.2	<0.2	<0.005	<0.005	<0.005	0.2	<0.005	-	1	<0.1	<0.005
300470-1	ENV_045	14 Jul 2022	Water	<1	<1	<1	<5	<5	0.39	-	-	<0.005	-	-	0.9	<0.005	<0.01	4	<0.1	<0.005
300470-2	WTP_BH13	14 Jul 2022	Water	<1	<1	<1	<5	<5	0.018	-	-	0.01	-	-	0.3	0.005	<0.01	<1	<0.1	<0.005
300470-3	WTP_BH25	14 Jul 2022	Water	<1	<1	<1	<5	<5	1.9	-	-	<0.05	-	-	2.6	<0.005	0.02	5	<0.1	<0.050
300470-4	WTP_BH25_s	14 Jul 2022	Water	<1	<1	<1	<5	<5	16	-	-	<0.005	-	-	22	<0.005	0.03	8	<0.1	<0.01
300470-4	WTP_BH25_s	14 Jul 2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	ENV_039	14 Jul 2022	Water	<1	<1	<1	<5	<5	0.79	-	-	<0.01	-	-	0.9	<0.005	0.14	4	<0.1	<0.050
300546-1	ENV_293	13 Jul 2022	Water	-	-	-	<5	<5	0.18	0.2	-	-	1.0	0.12	1.4	0.007	<0.01	<1	0.1	<0.001
300546-2	WTP_BH18	13 Jul 2022	Water	-	-	-	<5	<5	1.1	1	-	-	<0.005	<0.005	1	<0.005	<0.01	1	<0.1	<0.001
300546-3	SMW_BH010	13 Jul 2022	Water	-	-	-	<5	<5	7.1	8.2	-	-	<0.005	<0.005	8.2	<0.005	0.04	<1	<0.1	<0.001
300546-4	ENV_042	13 Jul 2022	Water	-	-	-	<5	<5	1.4	1.4	-	-	0.007	0.008	1.4	<0.005	<0.01	3	<0.1	<0.001
300573-1	SMW_WTP_BH030	15 Jul 2022	Water	<1	<1	<1	<5	<5	1.3	-	-	0.1	-	-	1.2	<0.005	0.03	5	<0.1	<0.005
300573-2	SMW_WTP_BH030_s	15 Jul 2022	Water	<1	<1	<1	<5	<5	0.12	-	-	0.006	-	-	0.1	<0.005	0.01	<1	<0.1	<0.005
300573-3	SMW_BH057_s	15 Jul 2022	Water	<1	<1	<1	<5	<5	0.16	-	-	0.02	-	-	0.4	<0.005	<0.01	2	<0.1	<0.005
300573-4	SMW_BH057	15 Jul 2022	Water	<1	<1	<1	<5	<5	2.3	-	-	0.01	-	-	2.4	<0.005	<0.01	3	<0.1	<0.005
300679-1	SMW_ENV010	18 Jul 2022	Water	<1	<1	<1	<5	<5	4.1	-	-	<0.005	-	-	5.5	<0.005	<0.01	20	<0.1	<0.050
300679-2	SMW_ENV009	18 Jul 2022	Water	<1	<1	<1	<5	<5	9.9	-	-	0.01	-	-	13	<0.005	<0.01	5	<0.1	<0.005
301190-1	SMW_ENV083	22 Jul 2022	Water	<1	<1	<1	<5	<5	0.23	-	-	<0.01	-	-	0.4	<0.005	0.02	<1	<0.1	<0.050
301190-2	SMW_ENV089	22 Jul 2022	Water	<1	<1	<1	<5	<5	17	-	-	0.03	-	-	13	<0.05	0.01	9	<0.1	<0.005
301190-3	SWM_EN088	22 Jul 2022	Water	<1	<1	<1	<5	<5	6.4	-	-	0.02	-	-	7.9	<0.05	0.05	41	<0.1	<0.050

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Metals													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Chromium (Trivalent)	Chromium (III+VI) (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Silicon	Zinc (filtered)	Benzene	Toluene	Ethylbenzene
				µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.005	1	1	0.01	1	0.005	0.05	1	0.05	200	1	1	1	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)							0.027		1.3		4.4		0.4	70			15	700	180	80
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries															0.03					
NEPM 2013 Table 1C GILs, Fresh Waters									*1.4*		*3.4*	*1.9*	*0.06*	*11*			*8*	*950*		
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	<1	<1	0.99	<1	0.46	<0.05	*14*	0.9	10,000	8	<1	<1	<1
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	<1	<1	20	<1	0.35	<0.05	10	<0.05	10,000	*12*	<1	<1	<1
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	<1	*8*	6.5	<1	1	<0.05	*35*	<0.05	12,000	*91*	<1	<1	<1
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	<1	<1	75	<1	*2.9*	<0.05	3	<0.05	7,500	<1	<1	<1	<1
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	<1	1	0.03	<1	0.52	<0.05	7	<0.05	20,000	8	<1	<1	<1
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	<1	<1	0.04	<1	0.24	<0.05	4	<0.05	16,000	4	<1	<1	<1
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	<1	<1	0.37	<1	0.92	<0.05	10	<0.05	19,000	*22*	<1	<1	<1
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	<1	<1	0.47	<1	0.42	<0.05	5	<0.05	14,000	*9*	<1	<1	<1
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	-	<1	*5*	0.88	<1	0.11	<0.05	2	0.1	-	*43*	<1	<1	<1
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	-	<1	*2*	0.01	<1	0.013	<0.05	<1	0.08	-	8	<1	<1	<1
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	-	1	<1	310	<1	0.82	<0.05	*13*	<0.05	-	*370*	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	-	<1	<1	17	<1	0.31	<0.05	<1	0.1	-	<1	6	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	-	<1	1	12	<1	1.6	<0.05	2	<0.05	-	5	<1	<1	<1
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<0.005	<1	1	-	<1	1.1	<0.05	7	<0.05	-	6	<1	<1	<1
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<0.005	<1	1	-	<1	0.5	<0.05	8	<0.05	-	*23*	<1	<1	<1
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<0.005	<1	*860*	-	<1	0.66	<0.05	2	<0.05	-	*12*	<1	<1	<1
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<0.005	<1	*290*	-	<1	0.23	<0.05	*25*	<0.05	-	*39*	<1	<1	<1
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	-	<1	*2*	12	<1	*3.2*	<0.05	*16*	<0.05	-	*18*	<1	2	<1
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	-	<1	1	0.08	<1	*2*	<0.05	*25*	<0.05	-	*50*	<1	<1	<1
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	-	<1	<1	7.7	<1	1.4	<0.05	2	<0.05	-	4	<1	<1	<1
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	-	<1	<1	0.02	<1	0.64	<0.05	*16*	<0.05	-	4	<1	<1	<1
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	-	<1	*2*	46	<1	1.3	<0.05	8	0.07	-	4	<1	<1	<1
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	-	<1	<1	24	<1	0.96	<0.05	2	0.4	-	<1	<1	<1	<1
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	-	<1	*2*	37	<1	0.15	<0.05	9	<0.05	-	*24*	<1	<1	<1
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	-	3	<1	480	<1	1.4	<0.05	<1	0.4	-	<1	<1	<1	<1
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	-	4	<1	340	<1	0.33	<0.05	2	0.09	-	*35*	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			BTEX				TRH									
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Xylene (m & p)	Xylene (o)	Naphthalene	Naphthalene (BTEX)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	2	1	1	1	10	10	50	50	100	100	50	1	1	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)									70	70										30
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters								*350*	*16*	*16*										
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	100	<100	100	<1	<1	<1
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	220	<100	220	<1	<1	<1
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	140	<100	140	<1	<1	<1
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	4,100	4,100	210	210	780	<100	990	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	390	390	<100	<100	390	<1	<1	<1
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<10	<100	<10	110	110	500	<100	610	<1	<1	<1
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<2	<1	<1	<10	<100	<10	<50	<50	<100	<100	<50	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			MAH						Halogenated Hydrocarbons							
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	1	1	10	10	10	1	1	1	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																		270	400	1,900
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				*6,500*
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	SMW_ENV237	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-2	SMW_ENV149	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-3	SMW_ENV241	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-4	SMW_ENV234	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-5	SMW_ENV209	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-6	SMW_ENV243	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-7	SMW_ENV208	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300303-8	SMW_ENV207	12 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300470-1	ENV_045	14 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300470-2	WTP_BH13	14 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300470-3	WTP_BH25	14 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300470-4	WTP_BH25_s	14 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300470-4	WTP_BH25_s	14 Jul 2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	ENV_039	14 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300546-1	ENV_293	13 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300546-2	WTP_BH18	13 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300546-3	SMW_BH010	13 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300546-4	ENV_042	13 Jul 2022	Water	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300573-1	SMW_WTP_BH030	15 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300573-2	SMW_WTP_BH030_s	15 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300573-3	SMW_BH057_s	15 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300573-4	SMW_BH057	15 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300679-1	SMW_ENV010	18 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
300679-2	SMW_ENV009	18 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
301190-1	SMW_ENV083	22 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
301190-2	SMW_ENV089	22 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1
301190-3	SWM_EN088	22 Jul 2022	Water	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<1	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Chlorinated Hydrocarbons													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)								700				1,900	900	1,100					240	
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation																
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	10	1	10	1	1	1	1	5	2	1	1	1	1	10
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)								770								330	70			100
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters															*290*					
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Halogenated Benzenes												VOCs	
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	Pentachloroethane	2-(acetylamino) fluorene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	2	1	1	1	1	1	1	1	1	0.2	2	2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)								5	80							55	0.1	2	80	
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters							*3*		*85*	*160*	*260*	*60*								
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<2	4	2	34	*82*	<1	<1	<1	1,500	<2	<2	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	3	36	*88*	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<2	<2

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			SVOCs													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Isosafrole	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	5	5	5	5	5	5	5	5	5	2	5	10	5	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation				PAH												
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Phenacetin	Benzo(b+j+k)fluoranthene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene
				µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	5	0.002	2	2	2	2	1	1	1	1	1	1	1	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)															0.4		0.2			
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation										TPH						
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of positives)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	0.005	0.001	10	50	100	100	50	2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)							1.4			2										
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																			*10*	
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	100	<100	100	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	240	<100	240	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	160	<100	160	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	4,100	120	880	<100	1,000	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	380	<100	<100	380	<2	<2
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<100	50	500	<100	550	<2	<2
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<100	<50	<100	<100	<50	<2	<2

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Phenols													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	2,4-Dinitrophenol	2,4,6-Trichlorophenol	2,6-D	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	3&4-Methylphenol (m&p-cresol)	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Picloram
				µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	10	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters							*0.045*	*3*		*120*			*340*							
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	6	<2	<4	<2	<20	<20	<10	<1
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation						PCBs							Explosives			
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Pentachlorophenol	Phenolics Total	Phenol	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	1,3-Dinitrobenzene	2,6-dinitrotoluene	Nitrobenzene	4,4-DDE
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L
EQL				1	1	1	10	50	2	2	2	2	2	2	2	2	0.005	5	5	0.2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)							22		400											
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters							*3.6*		*320*				*0.3*		*0.01*					
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2	<2	-	-	-	<0.2
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<2
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<2
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<2
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	-	<2	-	-	-	-	-	-	-	<0.005	<5	<5	<0.2

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Organochlorine Pesticides													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																			0.008	
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters											*0.006*					*0.01*	
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation																
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0002	2	0.2	0.2	0.2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)														0.009						
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters								*0.2*	*0.01*					*0.01*			*0.01*		*0.15*	
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	<2	<0.2	<0.2	<0.2	<2

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Organophosphorous Pesticides													Pesticides
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Parathion	Phorate	Ronnel	Safrole	Carbazole
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	5	0.2	0.2	2	2	0.2	2	2	2	0.2	2	0.2	5	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters									*0.2*			*0.05*				*0.004*				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-	<0.2	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<5
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Herbicides													
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	Hedonal	2,4-Dichlorprop	2,4,6-Trichlorophenoxy-acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Chlorophenoxyacetic acid	4-Chlorophenoxy acetic acid	Acifluorfen	Bentazone	Bromoxynil	Chloramben	Clopyralid	Dicamba
				µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.0005	0.0005	0.0005	0.0005	0.0005	0.5	0.0005	0.0005	0.002	1	0.5	1	0.5	0.5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters							*0.036*		*0.28*											
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.02	<10	<5	<10	<5	<5
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<0.005	<0.005	<0.02	<10	<5	<10	<5	<5

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation									Perfluoroalkyl Sulfonic Acids								
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Dinoseb	Fluroxypyr	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop	Triclopyr	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	Perfluorobutanoic acid (PFBA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	0.5	0.5	0.5	0.0005	0.01	0.01	0.0002	0.01	0.0002	0.02	0.0002	0.02
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																	0.13			
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	0.046	-	0.040	-	0.086	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	0.0025	-	0.0002	-	0.0027	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	0.0007	-	0.0007	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	0.69	-	0.60	-	1.3	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	0.42	-	0.99	-	1.4	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	0.095	-	0.021	-	0.12	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	1.3	-	0.42	-	1.7	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.04
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	0.04	<0.01	<0.01	<0.02	0.04	<0.02
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	0.02	<0.01	0.05	<0.01	0.02	<0.02	0.07	0.05
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	0.05	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.02
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.0005	0.09	0.07	0.24	0.01	0.12	<0.02	0.36	0.04
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	<10	<5	<5	<5	<0.005	<0.01	<0.01	0.03	<0.01	<0.01	<0.02	0.03	<0.02
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<10	<10	<5	<5	<5	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			Perfluoroalkyl Carboxylic Acid										Perfluoroalkyl Sulfon			
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	0.02	0.01	0.01	0.0002	0.01	0.02	0.02	0.05	0.1	0.5	0.1	0.05	0.1	0.05
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%										220										
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	SMW_ENV237	12 Jul 2022	Water	-	-	-	-	-	-	0.15	-	-	-	-	-	-	-	-	-	-
300303-2	SMW_ENV149	12 Jul 2022	Water	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-
300303-3	SMW_ENV241	12 Jul 2022	Water	-	-	-	-	-	-	0.0004	-	-	-	-	-	-	-	-	-	-
300303-4	SMW_ENV234	12 Jul 2022	Water	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-
300303-5	SMW_ENV209	12 Jul 2022	Water	-	-	-	-	-	-	0.089	-	-	-	-	-	-	-	-	-	-
300303-6	SMW_ENV243	12 Jul 2022	Water	-	-	-	-	-	-	0.085	-	-	-	-	-	-	-	-	-	-
300303-7	SMW_ENV208	12 Jul 2022	Water	-	-	-	-	-	-	0.014	-	-	-	-	-	-	-	-	-	-
300303-8	SMW_ENV207	12 Jul 2022	Water	-	-	-	-	-	-	0.13	-	-	-	-	-	-	-	-	-	-
300470-1	ENV_045	14 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300470-2	WTP_BH13	14 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300470-3	WTP_BH25	14 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300470-4	WTP_BH25_s	14 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	0.05	0.04	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300470-4	WTP_BH25_s	14 Jul 2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	ENV_039	14 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300546-1	ENV_293	13 Jul 2022	Water	-	-	-	<0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300546-2	WTP_BH18	13 Jul 2022	Water	-	-	-	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300546-3	SMW_BH010	13 Jul 2022	Water	-	-	-	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300546-4	ENV_042	13 Jul 2022	Water	-	-	-	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300573-1	SMW_WTP_BH030	15 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300573-2	SMW_WTP_BH030_s	15 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300573-3	SMW_BH057_s	15 Jul 2022	Water	<1	<1	<1	0.02	0.02	0.02	0.02	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300573-4	SMW_BH057	15 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300679-1	SMW_ENV010	18 Jul 2022	Water	<1	<1	<1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
300679-2	SMW_ENV009	18 Jul 2022	Water	<1	<1	<1	<0.02	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
301190-1	SMW_ENV083	22 Jul 2022	Water	<1	<1	<1	0.03	0.22	0.06	0.05	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
301190-2	SMW_ENV089	22 Jul 2022	Water	<1	<1	<1	0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
301190-3	SWM_EN088	22 Jul 2022	Water	<1	<1	<1	<0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation			amides			Fluorotelomer Sulfonic Acids				PFAS Totals		Nitroaromatics	Organic	Other		
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	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)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of PFAS	Pentachloronitrobenzene	Methane	3,5-Dichlorobenzoic acid	Acetophenone	Actril (Ioxynil)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	mg/L
EQL				1	1	1	0.5	0.02	0.02	0.01	0.0004	0.0004	0.02	0.0002	0.0002	5	0.005	0.0005	5	0.001
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																				
PFAS NEMP 2020 Freshwater 95%																				
ANZECC 2000 SE Aust Triggers - Estuaries																				
NEPM 2013 Table 1C GILs, Fresh Waters																				
Sample Code	**Field ID**	**Date**	**Matrix Type**																	
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	0.0004	<0.0004	-	0.19	0.23	-	0.008	-	-	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	<0.0004	<0.0004	-	<0.0002	<0.0002	-	<0.005	-	-	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	0.002	<0.0004	-	0.0006	0.0047	-	<0.005	-	-	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	<0.0004	<0.0004	-	0.0007	0.0007	-	0.008	-	-	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	0.075	<0.0004	-	0.69	1.5	-	<0.005	-	-	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	0.19	0.026	-	1.1	1.7	-	<0.005	-	-	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	0.001	<0.0004	-	0.035	0.13	-	0.012	-	-	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	0.061	<0.0004	-	0.55	1.9	-	0.007	-	-	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.01	0.05	<5	-	<0.0005	<5	<0.001
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.04	0.13	<5	-	<0.0005	<5	<0.001
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.01	<5	-	<0.0005	<5	<0.001
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.04	0.22	<5	-	<0.0005	<5	<0.001
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	<0.01	<5	-	<0.0005	<5	<0.001
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.01	<5	-	<0.0005	<5	<0.001
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.09	<5	-	<0.0005	<5	<0.001
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.17	0.93	<5	-	<0.0005	<5	<0.001
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.06	<5	-	<0.005	<5	<0.01
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.5	<0.02	<0.02	<0.01	0.03	<0.02	<0.02	<0.01	0.04	<5	-	<0.005	<5	<0.01

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Fresh Waters

				Arsenic Speciation				Phthalates						Solvents	
				Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Phosalone	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Cyclohexane	Isophorone
				µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL				1	1	1	0.002	50	10	10	10	10	10	0.001	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)															
PFAS NEMP 2020 Freshwater 95%															
ANZECC 2000 SE Aust Triggers - Estuaries															
NEPM 2013 Table 1C GILs, Fresh Waters										*1,000*	*3,700*	*10*			
Sample Code	**Field ID**	**Date**	**Matrix Type**												
300303-1	**SMW_ENV237**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-2	**SMW_ENV149**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-3	**SMW_ENV241**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-4	**SMW_ENV234**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-5	**SMW_ENV209**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-6	**SMW_ENV243**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-7	**SMW_ENV208**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300303-8	**SMW_ENV207**	**12 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	<0.001	-
300470-1	**ENV_045**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300470-2	**WTP_BH13**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300470-3	**WTP_BH25**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300470-4	**WTP_BH25_s**	**14 Jul 2022**	**Water**	-	-	-	-	-	-	-	-	-	-	-	-
300470-5	**ENV_039**	**14 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300546-1	**ENV_293**	**13 Jul 2022**	**Water**	-	-	-	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300546-2	**WTP_BH18**	**13 Jul 2022**	**Water**	-	-	-	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300546-3	**SMW_BH010**	**13 Jul 2022**	**Water**	-	-	-	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300546-4	**ENV_042**	**13 Jul 2022**	**Water**	-	-	-	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300573-1	**SMW_WTP_BH030**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300573-2	**SMW_WTP_BH030_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300573-3	**SMW_BH057_s**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300573-4	**SMW_BH057**	**15 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300679-1	**SMW_ENV010**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
300679-2	**SMW_ENV009**	**18 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
301190-1	**SMW_ENV083**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
301190-2	**SMW_ENV089**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5
301190-3	**SWM_EN088**	**22 Jul 2022**	**Water**	<1	<1	<1	<0.002	<50	<10	<10	<10	<10	<10	<0.001	<5

Comments

#1 NIL (+)VE

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Amino Aliphatics				Physico-Chemical & M											
						N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	Redox Potential (Lab)	pH Redox	pH (Lab)	Electrical Conductivity (Lab)	Dissolved Oxygen	TDS	Chloride	Sulfate as SO4 - Turbidimetric (filtered)	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3
						µg/L	µg/L	µg/L	µg/L	mV	-	-	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL						2	2	2	2	0.1	0.01	0.01	1	0.1	5	1	1	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																					
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																					
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	102	-	7.1	-	8.6	2,100	240	-	540	<5	<5	670
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	113	-	6.3	-	8.9	1,100	500	-	51	<5	<5	60
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	85	-	6.4	-	9.5	440	52	-	89	<5	<5	110
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	68	-	5.7	-	9.3	440	170	-	20	<5	<5	30
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	45	-	6.2	-	9.2	220	24	-	47	<5	<5	23
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	104	-	6.7	-	9.0	31	2	-	<1	<5	<5	23
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	134	-	6.5	-	9.5	240	42	-	39	<5	<5	62
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	123	-	6.8	-	9.4	30	1	-	1	<5	<5	23
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	-	<5	<5	-	81	-	7.4	-	8.9	1,100	100	-	380	<5	<5	210
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	-	<5	<5	-	89	-	6.4	-	9.7	420	52	-	89	<5	<5	110
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<2	<2	<2	<2	216	6.77	6.76	611	6.0	433	50	118	-	<1	<1	98

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						ajor Ions											Amino Aromatics				Inorganics
						Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Fluoride	Anions Total	Cations Total	Ionic Balance	Hardness as CaCO3 (filtered)	Hardness as CaCO3 (filtered)	1-naphthylamine	2-naphthylamine	Diphenylamine	N-Nitrosodiphenyl & Diphenylamine	Electrical Conductivity (Non Compensated)
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	mg/L	mgCaCO3/L	µg/L	µg/L	µg/L	µg/L	µS/cm
EQL						1	0.5	0.5	0.5	0.5	0.1	0.01	0.01	0.01	1		2	5	5	4	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																					
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																					
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	670	20	25	560	15	-	-	-	-7.0	-	150	<5	<5	<5	-	3,100
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	60	8.7	12	220	0.9	-	-	-	-18	-	72	<5	<5	<5	-	2,200
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	110	7.0	8.6	110	2	-	-	-	6.0	-	53	<5	<5	<5	-	600
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	30	5.3	8.4	120	0.5	-	-	-	3.0	-	48	<5	<5	<5	-	700
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	23	7.0	9.3	24	9.5	-	-	-	6.0	-	56	<5	<5	<5	-	270
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	23	6.4	<0.5	2	1	-	-	-	-10	-	16	<5	<5	<5	-	51
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	62	5	7.6	72	3	-	-	-	11	-	43	<5	<5	<5	-	440
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	23	6.0	<0.5	2	2	-	-	-	-11	-	15	<5	<5	<5	-	49
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	210	120	16	200	7.2	-	-	-	4.0	-	370	<5	<5	<5	-	1,500
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	110	6.6	8.2	110	2	-	-	-	4.0	-	50	<5	<5	<5	-	600
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	98	6	9	108	2	-	5.82	5.79	0.31	52	-	<2	-	-	<4	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Anilines						Nutrients									
						2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	Ammonia as N	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Organic Nitrogen as N	Nitrogen (Total Oxidised)	Nitrate (as N)	Nitrate (as N) (filtered)	Nitrite (as N)	Nitrite (as N) (filtered)	Nitrite + Nitrate as N
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL						4	4	2	2	2	2	0.005	0.005	0.01	0.2	0.005	0.002	0.002	0.002	0.002	0.002
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)											250	0.9	0.9								
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters											*8*										
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.14	0.4	-	-	-	0.14	-	<0.005	-
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.006	<0.1	-	-	-	27.6946	-	<0.005	-
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.005	<0.1	-	-	-	3.8	-	<0.005	-
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	<0.005	<0.1	-	-	-	0.32	-	<0.005	-
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.005	0.1	-	-	-	4.5	-	<0.005	-
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.22	0.5	-	-	-	0.092	-	<0.005	-
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	<0.005	<0.1	-	-	-	8.8	-	0.049	-
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.009	0.2	-	-	-	0.02	-	<0.005	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<5	<5	<5	<5	<5	<5	-	0.085	0.1	-	-	-	0.36	-	0.015	-
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<5	<5	<5	<5	<5	<5	-	0.008	<0.1	-	-	-	3.9	-	<0.005	-
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<4	<4	<2	<2	<2	<2	<0.005	-	<0.20[#2]	-	-	3.98	-	<0.002	-	3.98

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

									Metals													
						Nitrogen (Total)	Total Phosphorus as P (Organic Phosphate as P)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)	Chromium (Trivalent)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Zinc (filtered)
						mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L
EQL						0.01	0.005	0.001	0.005	1	0.05	0.001	0.001	0.2	0.5	1	0.005	0.005	1	0.05	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)									0.055		0.2	0.001			1.4	3.4	1.9	0.6	11		8
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters									*0.055 | 0.055*		*0.2*	*0.001*			*1.4*	*3.4*	*1.9*	*0.06*	*11*		*8*
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	0.5	-	<0.005	*0.21*	3	0.2	<0.001	<0.005	<1	*2*	<1	1.8	<0.05	*20*	<0.05	*38*
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	29	-	<0.005	0.01	<1	<0.1	<0.001	<0.005	<1	<1	<1	0.023	<0.05	2	<0.05	*17*
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	3.7	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	<1	<1	<1	<0.005	<0.05	<1	<0.05	2
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	0.3	-	<0.005	0.03	<1	<0.1	<0.001	<0.005	<1	*7*	<1	0.045	<0.05	3	<0.05	*49*
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	4.7	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	<1	1	<1	0.006	<0.05	<1	<0.05	1
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	0.6	-	0.007	0.05	<1	<0.1	<0.001	<0.005	<1	*2*	<1	0.053	<0.05	<1	0.06	*30*
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	8.9	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	<1	*25*	<1	0.058	<0.05	3	<0.05	*15*
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	0.2	-	0.01	0.04	<1	<0.1	<0.001	<0.005	<1	*12*	<1	0.02	<0.05	2	<0.05	*31*
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	0.5	-	<0.005	0.01	<1	<0.1	<0.001	<0.005	<1	1	<1	0.44	<0.05	*38*	<0.05	*28*
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	3.6	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	<1	<1	<1	<0.005	<0.05	<1	<0.05	5
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	3.68	0.022	0.010	<0.005	-	<0.05	<0.001	<0.001	<0.2	*4.0*	-	-	<0.005	-	-	-

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

						BTEX									TRH						
						Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene	Naphthalene (BTEX)	Total BTEX	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						1	1	1	2	1	2	0.2	1	1	10	10	50	50	100	100	50
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						950	180	80		350		16	16								
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters						*950*				*350*	*550*	*16*	*16*								
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	89	89	<50	<50	<100	<100	<50
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	99	99	910	590	1,600
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	110	<100	110
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100	<100	<100	<100	<100

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						MAH									Halogenated Hydrocarbons						
						1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						1	1	1	1	1	1	1	1	1	1	10	10	5	10	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								30													270
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																					
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308534-1	PH-BH19		19 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308297-3	PM_BH14		17 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308297-2	PM_BH15		17 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308297-1	PM_BH16		17 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308536-1	SMW_BH002_W		19 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308536-3	SMW_BH004_S		19 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308536-4	SMW_BH004_W		19 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
308297-4	QC05	PM_BH14	17 Oct 2022	Water	Field_D	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1
ES2237288001	QC06	PM_BH14	17 Oct 2022	Water	Interlab_D	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5	<5

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Chlorinated Hydrocarbons															
						1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						400	6,500		700				1,900	900	1,100					240	
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters							*6,500*														
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	10	1	10	1	1	1	1	5	2	1	1	1	1	10	1	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)		770							360	330	70			100	10	7
PFAS NEMP 2020 Freshwater 95%																
NEPM 2013 Table 1C GILs, Fresh Waters									*290*						*3*	

Sample Code	Field ID	Parent Sample	Date	Matrix Type	Sample Type	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<10	3	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<10	59	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	3	<1	<1	<10	<1	<2
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50	<5	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Halogenated Benzenes										VOCs					
						1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						1	1	1	1	1	1	1	1	0.2	2	5	5	2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						170	160	260	60				55	0.1	2			80			
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters						*85*	*160*	*260*	*60*												
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	-	-	<2	<2	-	<5
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	-	-	<2	<2	-	<5
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	-	-	<2	<2	-	<5
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	-	-	<2	<2	-	<5
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<5	<5	<2	<2	<2

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						SVOCs															
						4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Isosafrole	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	2	2	2	5	2	2	5	2	2	5	2	2	2	4	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																					
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																					
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308534-1	PH-BH19		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308297-3	PM_BH14		17 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308297-2	PM_BH15		17 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308297-1	PM_BH16		17 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308536-1	SMW_BH002_W		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308536-3	SMW_BH004_S		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308536-4	SMW_BH004_W		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
308297-4	QC05	PM_BH14	17 Oct 2022	Water	Field_D	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5
ES2237288001	QC06	PM_BH14	17 Oct 2022	Water	Interlab_D	<2	<2	<2	<2	-	<2	<2	-	<2	<2	-	<2	<2	<2	<4	<2

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

						PAH															
						Benzo(b+j+k)fluoranthene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene
						mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.0002	2	2	2	2	0.1	0.1	0.1	0.1	0.1	0.001	0.1	1	0.1	0.1	0.1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)													0.4		0.2						1.4
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																					
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308534-1	PH-BH19		19 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308297-3	PM_BH14		17 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308297-2	PM_BH15		17 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308297-1	PM_BH16		17 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308536-1	SMW_BH002_W		19 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308536-3	SMW_BH004_S		19 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308536-4	SMW_BH004_W		19 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
308297-4	QC05	PM_BH14	17 Oct 2022	Water	Field_D	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1
ES2237288001	QC06	PM_BH14	17 Oct 2022	Water	Interlab_D	<0.004	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of total)	PAHs (Sum of positives)	TPH C6-C9	TPH C10-C14	TPH C15-C28	TPH C29-C36	TPH C10-C36 (Sum of total)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4-Dinitrophenol	2,4,6-Trichlorophenol
						µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL						0.1	0.1	0.1	0.1	0.0005	0.5	0.0001	10	50	100	50	50	2	2	0.02	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								2										20		0.045	20
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																		*10*		*0.045*	*3*
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	63	<50	<100	<100	<50	<2	<2	<0.02	<2
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	77	490	620	1,200	<2	<2	<0.02	<2
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<1.0	<1.0	<1.0	<1.0	-	<0.5	-	<20	<50	<100	<50	<50	-	<2	-	<2

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Phenols															
						2,6-D	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	3&4-Methylphenol (m&p-cresol)	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Picloram	Pentachlorophenol	Phenolics Total	Phenol	Arochlor 1016
						mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.0005	2	2	2	2	2	4	2	20	20	2	1	4	50	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)							160			490								10		320	
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters							*120*			*340*								*3.6*		*320*	
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<1	<10	-	<10	-
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	-	<2	-
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	-	<2	-
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	-	<2	-
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	-	<2	-
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<1	<10	-	<10	-
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<1	<10	-	<10	-
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<1	<10	-	<10	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<1	<10	-	<10	-
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	-	<2	-
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<0.01	<2	<2	<2	<2	<2	<4	<2	-	-	<2	<10	<4	-	<2	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						PCBs						Explosives									
						Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	1,3,5-Trinitrobenzene	1,3-Dinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	4,4-DDE	a-BHC	Aldrin + Dieldrin	Aldrin	b-BHC
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	2	2	2	2	2	0.002	0.005	4	4	2	0.2	0.2	0.5	0.2	0.2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								0.6		0.03				65		550					
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters								*0.3*		*0.01*											
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<2	<2	-	<2	<2
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<2	<2	-	<2	<2
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<2	<2	-	<2	<2
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	-	-	<0.005	-	<5	<5	<2	<2	-	<2	<2
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	-	-	-	-	-	-	<0.002	-	<4	<4	<2	<0.5	<0.5	<0.5	<0.5	<0.5

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Organochlorine Pesticides															
						Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.5	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						0.08					0.01						0.02			0.2	0.09
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters						*0.03*					*0.006*						*0.01*			*0.2*	*0.01*
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

								Organophosphorous P													
						Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.2	0.2	0.2	0.2	0.5	0.5	0.2	0.0002	2	0.5	0.2	0.2	0.2	2	5	0.2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)								0.02				0.01				0.01		0.15			
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters												*0.01*				*0.01*		*0.15*			
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<2	<2	<2	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						esticides													Pesticides		
						Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Monocrotophos	Parathion	Phorate	Prothiofos	Ronnel	Safrole	Chlorobenzilate	Carbazole	Pirimphos-ethyl
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.2	0.5	0.5	0.2	2	2	2	2	0.2	2	0.5	0.2	5	2	2	0.5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						0.2			0.05					0.004							
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters						*0.2*			*0.05*					*0.004*							
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-
308534-1	PH-BH19		19 Oct 2022	Water	Normal	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-
308297-3	PM_BH14		17 Oct 2022	Water	Normal	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	-	<2	<5	-	<5	-
308297-2	PM_BH15		17 Oct 2022	Water	Normal	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	-	<2	<5	-	<5	-
308297-1	PM_BH16		17 Oct 2022	Water	Normal	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	-	<2	<5	-	<5	-
308536-1	SMW_BH002_W		19 Oct 2022	Water	Normal	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-
308536-3	SMW_BH004_S		19 Oct 2022	Water	Normal	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-
308536-4	SMW_BH004_W		19 Oct 2022	Water	Normal	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-
308297-4	QC05	PM_BH14	17 Oct 2022	Water	Field_D	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	-	<2	<5	-	<5	-
ES2237288001	QC06	PM_BH14	17 Oct 2022	Water	Interlab_D	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0	<2.0	-	<0.5	-	-	<2	<2	<0.5

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Herbicides															
						2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	Hedonal	2,4-Dichlorprop	2,4,6-Trichlorophenoxy-acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Chlorophenoxyacetic acid	4-Chlorophenoxy acetic acid	Acifluorfen	Bentazone	Bromoxynil	Chloramben	Clopyralid	Dicamba	Dinoseb	Fluroxypyr
						mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.0005	0.0005	0.0005	0.0005	0.0005	0.5	0.0005	0.0005	0.002	1	0.5	1	0.5	0.5	1	1
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)						0.036		0.28													
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters						*0.036*		*0.28*													
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002	<1	<0.5	<1	<0.5	<0.5	<1	<1
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<0.01	<0.01	<0.01	<0.01	<0.01	<10	-	<0.01	-	-	-	-	<10	<10	-	<10

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

Sample Code	Field ID	Parent Sample	Date	Matrix Type	Sample Type						Perfluoroalkyl Sulfonic Acids											
						2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop	Pronamide	Triclopyr	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)
						µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.5	0.5	0.5	2	0.0005	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																					
PFAS NEMP 2020 Freshwater 95%															0.13						
NEPM 2013 Table 1C GILs, Fresh Waters																					
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	0.04	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	0.02	<0.01
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	0.05	0.02	0.21	<0.01	0.20	<0.02	0.41	0.05	0.2	0.17	0.07
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	0.02	<0.01	<0.01	<0.01	0.03	<0.02	0.03	<0.02	0.04	0.02	0.01
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	0.06	<0.01
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	0.01	<0.01	0.03	<0.02	0.04	<0.02	0.05	0.05	0.04
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<0.5	<0.5	<0.5	-	<0.0005	0.06	0.02	0.20	<0.01	0.21	<0.02	0.42	0.05	0.2	0.18	0.07
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<10	<10	<10	<2	<0.01	0.06	<0.02	0.18	<0.02	0.20	<0.02	0.38	<0.1	0.17	0.18	0.06

Comments

#1 NIL (+)VE

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

Table T1 - Groundwater Monitoring Results - Freshwater

						Perfluoroalkyl Carboxylic Acid							Perfluoroalkyl Sulfonamides							Fluorotelomer	
						Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																					
PFAS NEMP 2020 Freshwater 95%						220															
NEPM 2013 Table 1C GILs, Fresh Waters																					
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	0.13	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	0.03	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	0.38
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	0.06	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	0.06
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	0.01
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	0.13	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Sulfonic Acids		PFAS Totals			Nitroaromatics			Organic	Phthalates						
						8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of PFAS	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Methane	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Methyl Ethyl Ketone
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.02	0.02	0.01	0.01	0.01	2	2	2	0.005	10	2	2	2	2	2	50
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)																	1,000	3,700	26		
PFAS NEMP 2020 Freshwater 95%																					
NEPM 2013 Table 1C GILs, Fresh Waters																	*1,000*	*3,700*	*10*		
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	0.01	0.08	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	0.32	1.1	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	0.06	0.15	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	<0.01	0.43	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	0.09	0.23	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	<0.01	0.06	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.02	<0.02	-	<0.01	0.01	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	<0.02	<0.02	-	0.34	1.1	-	-	<5	-	<50	<10	<10	<10	<10	<10	-
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<0.05	<0.05	0.98	-	0.98	<2	<2	<2	-	<10	<2	<2	<2	<2	<2	<50

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Solvents					
						2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Cyclohexane	Isophorone	Vinyl acetate
						µg/L	µg/L	µg/L	mg/L	µg/L	µg/L
EQL						50	50	5	0.001	2	50
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)											
PFAS NEMP 2020 Freshwater 95%											
NEPM 2013 Table 1C GILs, Fresh Waters											
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**						
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308534-1	**PH-BH19**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308297-3	**PM_BH14**		**17 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308297-2	**PM_BH15**		**17 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308297-1	**PM_BH16**		**17 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308536-1	**SMW_BH002_W**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308536-3	**SMW_BH004_S**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308536-4	**SMW_BH004_W**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	-	-	-	<0.001	<5	-
308297-4	**QC05**	**PM_BH14**	**17 Oct 2022**	**Water**	**Field_D**	-	-	-	<0.001	<5	-
ES2237288001	**QC06**	**PM_BH14**	**17 Oct 2022**	**Water**	**Interlab_D**	<50	<50	<5	-	<2	<50

Comments

#1 NIL (+)VE

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Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

						Arsenic Speciation			NA				Amino Aliphatics									
						Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Arsenic Acid, As (V)	Arsenic Acid, As (V) (filtered)	Arsenious Acid, As (III)	Arsenious Acid, As (III) (filtered)	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	Redox Potential (Lab)	pH Redox	pH (Lab)	Electrical Conductivity (Lab)	Dissolved Oxygen	TDS
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mV	-	-	µS/cm	mg/L	mg/L
EQL						1	1	1	0.5	0.5	0.5	0.5	2	2	2	2	0.1	0.01	0.01	1	0.1	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																			7-8.5			
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-11	-	6.2	-	6.0	4,100
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	18	-	6.5	-	8.7	26,000
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	26	-	5.9	-	7.9	20,000
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	133	-	5.9	-	8.0	12,000
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	142	-	5.4	-	8.0	12,000
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	155	-	6.3	-	8.3	3,600
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-	-	6.6	-	-	5,200
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	-	-	-	<5	<5	-	-	-	6.7	-	-	6,500
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-	-	7.2	-	-	1,100
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-	-	5.9	-	-	2,800
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	-	-	-	<5	<5	-	-	-	5.8	-	-	1,500
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	102	-	7.1	-	8.6	2,100
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-30	-	7.1	-	8.4	1,100
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	-	-	-	<5	<5	-	-25	-	7.1	-	8.6	1,200
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	-	-	-	-	<0.5	-	0.6	<2	<2	<2	<2	220	7.29	7.30	1,780	6.2	1,100
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<1	<1	<1	3	-	<2	-	-	<5	<5	-	-15	-	7.2	-	8.0	23,000
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	117	-	5.6	-	8.5	18,000
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	11	-	5.5	-	7.4	5,200
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	116	-	6.4	-	7.5	21,000
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	20	-	6.8	-	8.9	2,700
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-8	-	6.5	-	6.6	38,000
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	-	-	1,400
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	-	-	-	<5	<5	-	-14	-	6.5	-	7.7	42,000
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	-	-	-	-	<4.0#2	-	9.5	<2	<2	<2	<2	-45.0	6.71	6.76	44,600	7.2	29,500
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	105	-	7.8	-	8.3	830
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	81	-	7.4	-	8.9	1,100
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	-16	-	6.3	-	8.2	18,000
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	<5	<5	-	80	-	5.3	-	8.7	50

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						Physico-Chemical & Major Ions																
						Chloride	Sulfate as SO4 - Turbidimetric (filtered)	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Fluoride	Anions Total	Cations Total	Ionic Balance	Hardness as CaCO3 (filtered)	Hardness as CaCO3 (filtered)
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	mg/L	mgCaCO3/L
EQL						1	1	1	1	1	1	1	0.5	0.5	0.5	0.5	0.1	0.01	0.01	0.01	1	
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	1,800	-	510	<5	<5	200	200	36	93	1,300	24	-	-	-	2.0	-	470
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	9,000	-	540	<5	<5	730	730	610	670	6,500	91	-	-	-	14	-	4,300
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	9,200	-	1,200	<5	<5	140	140	200	930	4,900	12	-	-	-	2.0	-	4,300
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	5,200	-	1,400	<5	<5	130	130	170	470	2,900	12	-	-	-	-1.0	-	2,400
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	5,200	-	950	<5	<5	30	30	59	410	3,000	6.3	-	-	-	0	-	1,800
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	1,400	-	750	<5	<5	200	200	95	100	1,100	6.1	-	-	-	1.0	-	650
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	1,700	-	320	<5	<5	230	230	95	160	1,500	5.6	<0.1	-	-	15	-	910
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	2,200	-	380	<5	<5	250	250	91	160	1,500	5.6	<0.1	-	-	6.0	-	880
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	350	-	65	<5	<5	250	250	30	28	320	3	0.3	-	-	4.0	-	190
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	1,200	-	260	<5	<5	140	140	41	63	650	2	<0.1	-	-	-8.0	-	360
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	550	-	220	<5	<5	77	77	5.0	23	440	1	<0.1	-	-	-1.0	-	110
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	240	-	540	<5	<5	670	670	20	25	560	15	-	-	-	-7.0	-	150
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	100	-	180	<5	<5	730	730	130	72	190	17	-	-	-	-1.0	-	630
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	110	-	180	<5	<5	700	700	130	70	180	17	-	-	-	0	-	610
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	137	200	-	<1	<1	650	650	136	79	176	20	-	21.0	21.4	1.04	665	-
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	9,300	-	1,700	<5	<5	410	410	310	860	5,200	23	-	-	-	1.0	-	4,300
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	7,800	-	1,300	<5	<5	72	72	190	720	4,100	17	-	-	-	0	-	3,400
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	2,400	-	590	<5	<5	81	81	53	160	1,200	8.8	-	-	-	-10	-	800
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	8,200	-	540	<5	<5	320	320	260	710	4,300	14	-	-	-	2.0	-	3,600
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	240	-	1,300	<5	<5	540	540	530	110	170	7.0	-	-	-	-2.0	-	1,800
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	17,000	-	1,300	<5	<5	530	530	770	1,500	8,900	93	-	-	-	4.0	-	8,100
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	540	-	220	<5	<5	77	77	5.0	23	440	1	<0.1	-	-	0	-	110
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	16,000	-	1,300	<5	<5	520	520	790	1,600	9,300	93	-	-	-	9.0	-	8,400
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	15,300	1,230	-	<1	<1	416	416	922	1,580	8,860	134	-	466	565	9.64	8,810	-
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	150	-	58	<5	<5	420	420	50	46	190	11	-	-	-	4.0	-	310
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	100	-	380	<5	<5	210	210	120	16	200	7.2	-	-	-	4.0	-	370
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	6,500	-	1,500	<5	<5	280	280	210	470	3,000	110	-	-	-	-9.0	-	2,400
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	11	-	3	<5	<5	22	22	18	9.4	43	3	-	-	-	64	-	84

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						Amino Aromatics				Inorganics	Anilines											
						1-naphthylamine	2-naphthylamine	Diphenylamine	N-Nitrosodiphenyl & Diphenylamine	Electrical Conductivity (Non Compensated)	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	Ammonia as N	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Organic Nitrogen as N	Nitrogen (Total Oxidised)	Nitrate (as N)
						µg/L	µg/L	µg/L	µg/L	µS/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL						2	5	5	4	1	4	4	2	2	2	2	0.005	0.005	0.01	0.2	0.005	0.002
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																	0.91	0.91				
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																					0.015	
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	7,100	<5	<5	<5	<5	<5	<5	-	3.2	3.5	-	-	-
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	34,000	<5	<5	<5	<5	<5	<5	-	1.9	2.0	-	-	-
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	28,000	<5	<5	<5	<5	<5	<5	-	0.81	0.9	-	-	-
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	18,000	<5	<5	<5	<5	<5	<5	-	0.096	0.3	-	-	-
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	17,000	<5	<5	<5	<5	<5	<5	-	0.042	0.2	-	-	-
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	6,400	<5	<5	<5	<5	<5	<5	-	<0.005	0.1	-	-	-
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	8,600	<5	<5	<5	<5	<5	<5	-	0.12	0.5	0.4	0.03	-
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<5	<5	<5	-	9,600	<5	<5	<5	<5	<5	<5	-	0.11	0.5	0.4	0.03	-
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	1,800	<5	<5	<5	<5	<5	<5	-	0.45	0.8	0.3	<0.005	-
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	4,500	<5	<5	<5	<5	<5	<5	-	0.33	0.7	0.4	<0.005	-
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<5	<5	<5	-	2,500	<5	<5	<5	<5	<5	<5	-	0.076	0.2	<0.2	<0.005	-
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	3,100	<5	<5	<5	<5	<5	<5	-	0.14	0.4	-	-	-
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	1,800	<5	<5	<5	<5	<5	<5	-	10	11	-	-	-
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<5	<5	<5	-	1,800	<5	<5	<5	<5	<5	<5	-	10	11	-	-	-
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<2	-	-	<4	-	<4	<4	<2	<2	<2	<2	9.76	-	8.80	-	-	0.002
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	28,000	<5	<5	<5	<5	<5	<5	-	0.79	0.9	-	-	-
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	24,000	<5	<5	<5	<5	<5	<5	-	1.4	1.5	-	-	-
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	8,700	<5	<5	<5	<5	<5	<5	-	0.20	0.5	-	-	-
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	25,000	<5	<5	<5	<5	<5	<5	-	0.71	0.8	-	-	-
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	3,400	<5	<5	<5	<5	<5	<5	-	0.53	1.4	-	-	-
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	46,000	<5	<5	<5	<5	<5	<5	-	1.9	2.1	-	-	-
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	2,500	-	-	-	-	-	-	-	0.074	0.2	<0.2	<0.005	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<5	<5	<5	-	44,000	<5	<5	<5	<5	<5	<5	-	2.4	2.7	-	-	-
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<2	-	-	<4	-	<4	<4	<2	<2	<2	<2	2.16	-	2.9	-	-	<0.10#2
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	1,300	<5	<5	<5	<5	<5	<5	-	0.012	0.3	-	-	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	1,500	<5	<5	<5	<5	<5	<5	-	0.085	0.1	-	-	-
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	22,000	<5	<5	<5	<5	<5	<5	-	1.7	1.9	-	-	-
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<5	<5	<5	-	84	<5	<5	<5	<5	<5	<5	-	0.023	0.2	-	-	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

Sample Code	Field ID	Parent Sample	Date	Matrix Type	Sample Type	Nitrate (as N) (filtered)	Nitrite (as N)	Nitrite (as N) (filtered)	Nitrite + Nitrate as N	Nitrogen (Total)	Total Phosphorus as P (Organic Phosphate as P)	Reactive Phosphorus as P (Orthophosphate as P)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)	Chromium (Trivalent)	Chromium (Trivalent) (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)
						Nutrients								Metals								
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L
EQL						0.002	0.002	0.002	0.002	0.01	0.005	0.001	0.001	0.005	0.2	0.05	0.001	0.001	0.001	0.2	0.5	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																5.5	0.0044	0.027	0.027		1.3	4.4
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries										0.3		0.005	0.005									
NEPM 2013 Table 1C GILs, Marine Waters																0.7	0.0044	0.027	0.027		1.3	4.4
307846-3	C25_MW16		11 Oct 2022	Water	Normal	<0.005	-	<0.005	-	3.5	-	-	<0.005	<0.01	11	<0.1	<0.001	<0.005	-	<1	<1	<1
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	<0.005	-	<0.005	-	2.0	-	-	<0.005	<0.01	4	<0.1	<0.001	<0.005	-	<1	<1	<1
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	<0.005	-	<0.005	-	0.9	-	-	<0.005	<0.01	1	<0.1	<0.001	<0.005	-	<1	1	<1
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	0.03	-	0.007	-	0.4	-	-	<0.005	0.2	<1	0.3	<0.001	<0.005	-	<1	7	<1
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	0.01	-	<0.005	-	0.2	-	-	<0.005	0.78	<1	0.2	<0.001	<0.005	-	<1	6	2
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	0.02	-	<0.005	-	0.1	-	-	<0.005	0.02	<1	0.1	<0.001	<0.005	-	<1	3	<1
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	0.02	-	<0.005	-	0.5	-	-	<0.005	0.01	<1	0.1	-	-	-	<1	1	<1
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	0.03	-	<0.005	-	0.6	-	-	<0.005	0.01	<1	0.4	-	-	-	<1	<1	<1
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	<0.005	-	<0.005	-	0.8	-	-	<0.005	1.5	2	<0.1	-	-	-	1	7	3
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	<0.005	-	<0.005	-	0.7	-	-	<0.005	0.02	<1	<0.1	-	-	-	<1	<1	<1
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	<0.005	-	<0.005	-	0.2	-	-	<0.005	<0.01	<1	<0.1	-	-	-	<1	2	<1
308061-1	MW_BH04		13 Oct 2022	Water	Normal	0.14	-	<0.005	-	0.5	-	-	<0.005	0.21	3	0.2	<0.001	<0.005	-	<1	2	<1
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	<0.005	-	<0.005	-	11	-	-	<0.005	<0.01	1	<0.1	<0.001	<0.005	-	<1	<1	<1
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	<0.005	-	<0.005	-	11	-	-	<0.005	<0.01	1	<0.1	<0.001	<0.005	-	<1	<1	<1
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	-	<0.002	-	0.002	8.80	0.260	-	0.015	<0.005	1.0	<0.05	<0.001	<0.001	-	<0.2	<0.5	-
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	<0.005	-	<0.005	-	0.9	-	-	<0.005	<0.01	4	<0.1	<0.001	<0.005	-	<1	<1	<1
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	<0.05	-	<0.005	-	1.5	-	-	<0.005	<0.01	3	<0.1	<0.001	<0.005	-	<1	410	<1
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	<0.005	-	<0.005	-	0.5	-	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	-	<1	2	<1
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	<0.01	-	<0.005	-	0.9	-	-	<0.005	<0.01	5	<0.1	<0.001	<0.005	-	<1	<1	<1
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	<0.005	-	<0.005	-	1.4	-	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	-	<1	<1	<1
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	<0.02	-	<0.005	-	2.2	-	-	<0.005	<0.01	10	<0.1	<0.001	<0.005	-	<1	<1	<1
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	<0.005	-	<0.005	-	0.2	-	-	<0.005	0.01	<1	<0.1	-	-	-	<1	4	<1
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	<0.005	-	<0.005	-	2.7	-	-	<0.005	<0.01	11	<0.1	<0.001	<0.005	-	<1	<1	<1
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	-	<0.10[#2]	-	<0.10[#2]	2.9	0.17	<0.05[#2]	-	<0.005	-	<0.2	0.002	-	<0.010[#2]	<10[#2]	<1	-
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	0.01	-	<0.005	-	0.3	-	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005	-	<1	6	<1
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	0.36	-	0.015	-	0.5	-	-	<0.005	0.01	<1	<0.1	<0.001	<0.005	-	<1	1	<1
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	0.04	-	<0.005	-	2.0	-	-	<0.005	<0.01	3	<0.1	<0.001	<0.005	-	<1	<1	<1
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	0.008	-	<0.005	-	0.2	-	-	<0.005	0.05	<1	<0.1	<0.001	<0.005	-	1	92	<1

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

											BTEX											
						Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene	Naphthalene (BTEX)	Total BTEX	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16
						mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.005	0.005	1	0.05	1	1	1	1	2	1	2	0.2	1	1	10	10	50
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)							0.4	70		15	700	180	80				70	70				
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries									0.03													
NEPM 2013 Table 1C GILs, Marine Waters							0.1	7		15	500						50	50				
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	0.18	<0.05	8	<0.05	43	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	0.37	<0.05	5	0.2	18	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	0.66	<0.05	23	<0.05	46	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	0.62	<0.05	22	<0.05	85	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	150
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	0.23	<0.05	29	<0.05	100	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	0.26	<0.05	7	<0.05	62	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	-	<0.05	9	<0.05	42	<1	<1	<1	<2	<1	-	<0.2	<1	-	<10	<10	51
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	-	<0.05	10	<0.05	42	<1	<1	<1	<2	<1	-	<0.2	<1	-	<10	<10	65
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	-	<0.05	3	<0.05	9	<1	<1	<1	<2	<1	-	<0.2	2	-	<10	<10	960
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	-	<0.05	11	<0.05	37	<1	<1	<1	<2	<1	-	<0.2	<1	-	<10	<10	300
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	-	<0.05	2	<0.05	19	<1	<1	<1	<2	<1	-	<0.2	<1	-	<10	<10	140
308061-1	MW_BH04		13 Oct 2022	Water	Normal	1.8	<0.05	20	<0.05	38	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	0.87	<0.05	<1	0.4	1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	0.88	<0.05	<1	0.4	3	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	-	<0.005	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	1.4	<0.05	2	<0.05	6	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	0.25	<0.05	23	<0.05	44	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	0.11	<0.05	8	<0.05	24	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	120
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	0.33	<0.05	10	<0.05	110	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	0.55	<0.05	7	<0.05	13	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	2.1	<0.05	2	<0.05	1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	-	<0.05	4	<0.05	21	<1	<1	<1	<2	<1	-	<0.2	<1	-	<10	<10	100
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	2.3	<0.05	2	<0.05	<1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	-	<0.005	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	0.009	<0.05	1	<0.05	8	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	0.44	<0.05	38	<0.05	28	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	0.32	<0.05	23	<0.05	25	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	0.021	<0.05	14	0.06	130	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	60

Comments

#1 NIL (+)VE

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Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

						TRH				MAH									Halogenated Hydrocarbons			
						C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						50	100	100	50	1	1	1	1	1	1	1	1	1	1	10	10	5
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)												30										
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	150	<100	<100	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	51	240	<100	290	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	65	500	<100	560	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	950	2,800	<100	3,800	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	300	540	<100	840	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	140	580	<100	710	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	120	430	<100	550	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<50	180	<100	180	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	100	340	<100	440	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<50	140	<100	140	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	60	130	<100	190	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

							Chlorinated H															
						Trichlorofluoromethane	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)								270	400	1,900		700				1,900	900	1,100				
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters										1,900												
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

Sample Code	Field ID	Parent Sample	Date	Matrix Type	Sample Type	lydrocarbons																
						Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						1	1	10	1	10	1	1	1	1	5	2	1	1	1	1	10	1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)						240			770								330	70			100	
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
307846-3	C25_MW16		11 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	<1	<1	<10	1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50	<5
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<10	<1
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50	<5
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	<1	<1	<10	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<1

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						Halogenated Benzenes											VOCs					
						1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	1	1	1	1	1	1	1	1	0.2	2	5	5	2	2	2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)						5	80							55	0.1	2			80			
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters							20															
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<5	<5	<2	<2	<2
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	-	-	-	-	-	-	-
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<5	<5	<2	<2	<2
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	-	-	<2	<2	-	<5

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						SVOCs																
						4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Benzyl alcohol	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Isosafrole	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin	Benzo(b+j+k)fluoranthene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL						2	2	2	2	5	2	2	5	2	2	5	2	2	2	4	2	0.0002
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.0002
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.0002
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	0.0022
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.0002
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.0002
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	<2	<2	<2	<2	-	<2	<2	-	<2	<2	-	<2	<2	<2	<4	<2	-
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	<2	<2	<2	<2	-	<2	<2	-	<2	<2	-	<2	<2	<2	<4	<2	-
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	<5	<5	-	<5	<5	<5	<5	<5	<5	<2	<5	<10	<5	<5	-	<5	<0.002

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						PAH																
						2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	2	2	2	0.1	0.1	0.1	0.1	0.1	0.001	0.1	1	0.1	0.1	0.1	0.1	0.1
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)												0.4		0.2						1.4		
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	<2	<2	<2	<2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	<2	<2	<2	<2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	<2	<2	<2	<2	0.5	<0.1	0.4	0.8	1	-	0.7	-	0.9	<0.1	2	0.5	0.8
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	<2	<2	<2	<2	0.2	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	<2	<2	<2	<2	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

											TPH											
						Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of total)	PAHs (Sum of positives)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4-Dinitrophenol	2,4,6-Trichlorophenol	2,6-D	2,4-Dichlorophenol	2,4-Dimethylphenol
						µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L
EQL						0.1	0.1	0.0005	0.5	0.0001	10	50	100	50	50	2	2	0.02	2	0.0005	2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)						2																
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	110	<100	<100	110	<2	<2	<0.02	<2	<0.0005	<2	<2
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<0.1	<0.1	<0.0005	-	<0.0001	<10	<50	230	<100	230	<2	<2	<0.02	<2	-	<2	<2
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<0.1	<0.1	<0.0005	-	<0.0001	<10	<50	450	<100	450	<2	<2	<0.02	<2	-	<2	<2
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	0.3	2.8	0.0014	-	0.013	<10	380	3,100	370	3,800	<2	<2	<0.02	<2	-	<2	<2
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	0.2	<0.1	<0.0005	-	0.00038	<10	160	660	<100	830	<2	<2	<0.02	<2	-	<2	<2
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<0.1	<0.1	<0.0005	-	<0.0001	<10	74	580	<100	650	<2	<2	<0.02	<2	-	<2	<2
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<1.0	<1.0	-	<0.5	-	<20	<50	<100	<50	<50	-	<2	-	<2	<0.01	<2	<2
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	89	410	<100	500	<2	<2	<0.02	<2	<0.0005	<2	<2
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	160	<100	160	<2	<2	<0.02	<2	<0.0005	<2	<2
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	<0.1	<0.1	<0.0005	-	<0.0001	<10	57	350	<100	410	-	-	-	-	-	-	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<1	<1	<0.005	-	0[#1]	<10	<50	140	<100	140	<2	<2	<0.02	<2	<0.0005	<2	<2
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<1.0	<1.0	-	<0.5	-	<20	<50	<100	<50	<50	-	<2	-	<2	<0.01	<2	<2
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<1	<1	<0.005	-	0[#1]	<10	<50	120	<100	120	<2	<2	<0.02	<2	<0.0005	<2	<2

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

						Phenols											PCBs					
						2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	3&4-Methylphenol (m&p-cresol)	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenolics Total	Phenol	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	2	2	4	2	20	20	2	4	50	2	2	2	2	2	2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)														22		400						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters														11		400						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<2	-	-	-	-	-	-
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<2	-	-	-	-	-	-
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<2	-	-	-	-	-	-
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	<50	<10	<2	<2	<2	<2	<2	<2
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<2	<2	<2	<4	<2	<20	<20	<10	<10	<50	<10	<2	<2	<2	<2	<2	<2
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	<50	<2	<2	<2	<2	<2	<2	<2
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	<50	<2	<2	<2	<2	<2	<2	<2
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<2	<2	<2	<4	<2	<20	<20	<10	<10	<50	<2	<2	<2	<2	<2	<2	<2
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<2	<2	<2	<4	<2	-	-	<2	<4	-	<2	-	-	-	-	-	-
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	-	<50	-	<2	<2	<2	<2	<2	<2
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<2	<2	<2	<4	<2	-	-	<2	<4	-	<2	-	-	-	-	-	-
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<20	<10	<10	-	<10	-	-	-	-	-	-
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<2	<2	<2	<4	<2	<20	<100	<10	<10	-	<10	-	-	-	-	-	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

							Explosives					Organ										
						Arochlor 1260	1,3,5-Trinitrobenzene	1,3-Dinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	4,4-DDE	a-BHC	Aldrin + Dieldrin	Aldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT
						µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	0.002	0.005	4	4	2	0.2	0.2	0.5	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	<2	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	<2	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	<2	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	<2	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	<2	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308061-1	MW_BH04		13 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	-	<0.002	-	<4	<4	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	<2	-	-	-	-	-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	-	<0.002	-	<4	<4	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	-	-	<0.005	-	<5	<5	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						ochlorine Pesticides																
						DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)											0.008											0.009
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters											0.004											0.009
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308061-1	MW_BH04		13 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

						Organophosphorous Pesticides																
						Chlorpyrifos-methyl	Coumaphos	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Monocrotophos
						mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.0002	2	0.5	0.2	0.2	0.2	2	5	0.2	0.2	0.5	0.5	0.2	2	2	2	2
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<0.0005	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	<0.0002	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<0.0005	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

						Pesticides																
						Parathion	Phorate	Prothiofos	Ronnel	Safrole	Chlorobenzilate	Carbazole	Pirimphos-ethyl	2,4,5-Trichlorophenoxy Acetic Acid	2,4,5-TP (Silvex)	Hedonal	2,4-Dichlorprop	2,4,6-Trichlorophenoxy-acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Chlorophenoxyacetic acid	4-Chlorophenoxy acetic acid	Acifluorfen
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L
EQL						0.2	2	0.5	0.2	5	2	2	0.5	0.0005	0.0005	0.0005	0.0005	0.0005	0.5	0.0005	0.0005	0.002
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	-	-	-	-	-	-	-	-	-
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<0.2	<2	-	<0.2	<5	-	<5	-	-	-	-	-	-	-	-	-	-
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	-	-	-	-	-	-	-	-	-
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	-	-	-	-	-	-	-	-	-
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<0.2	<2	-	<0.2	<5	-	<5	-	-	-	-	-	-	-	-	-	-
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<10	-	<0.01	-
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	<0.2	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<10	-	<0.01	-
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.0005	<0.0005	<0.002

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

						Herbicides												Perfluoroalkyl Sulfonic Acids				
						Bentazone	Bromoxynil	Chloramben	Clopyralid	Dicamba	Dinoseb	Fluroxypyr	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Mecoprop	Pronamide	Triclopyr	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						1	0.5	1	0.5	0.5	1	1	0.5	0.5	0.5	2	0.0005	0.01	0.01	0.01	0.01	0.01
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						0.13
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	0.01	<0.01	0.02	<0.01	<0.01
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	0.01	<0.01	0.01
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	<0.01	-	<0.01
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	<0.01	-	<0.01
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	<0.01	-	0.02
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	0.31	-	0.29
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	0.01	-	0.02
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	0.01	<0.01	0.01	<0.01	<0.01
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	-	-	-	<10	<10	-	<10	<10	<10	<10	<2	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	0.08	0.06	0.25	0.02	0.13
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	0.01	<0.01	<0.01
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	0.01
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	-	-	-	<10	<10	-	<10	<10	<10	<10	<2	<0.01	<0.02	<0.02	<0.01	<0.02	<0.01
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<1	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	-	<0.0005	<0.01	<0.01	<0.01	<0.01	<0.01

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries
2013, NEPM 2013 Table 1C GILs, Marine Waters

								Perfluoroalkyl Carboxylic Acid											Perfluoroalkyl Sulfor			
						Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%												220										
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<0.02	0.02	<0.02	<0.02	<0.01	<0.01	0.02	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.04	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<0.02	0.03	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	-	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	-	<0.01	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	-	0.02	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	-	0.60	-	-	-	-	0.12	-	-	-	-	-	-	-	-	-	-
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	-	0.03	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<0.02	0.01	0.04	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<0.02	<0.01	0.04	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	<0.02	<0.01	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.04	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<0.02	0.38	0.03	0.04	0.23	0.05	0.06	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.04	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<0.02	0.01	0.05	<0.02	0.01	0.01	0.02	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.04	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	-	0.03	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<0.02	<0.01	<0.04	<0.02	0.02	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	<0.02	<0.01	<0.1	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<0.02	<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

						amides			Fluorotelomer Sulfonic Acids				PFAS Totals			Nitroaromatics			Organic	Other		
						N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	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)	Sum of PFAS (WA DER List)	Sum of US EPA PFAS (PFOS + PFOA)*	Sum of PFAS	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Methane	3,5-Dichlorobenzoic acid	Acetophenone	Actril (Ioxynil)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	mg/L
EQL						0.05	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	2	2	2	0.005	0.0005	2	0.001
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZECC 2000 SE Aust Triggers - Estuaries																						
NEPM 2013 Table 1C GILs, Marine Waters																						
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**																	
307846-3	C25_MW16		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	0.02	0.05	-	-	<5	-	<0.0005	<5	<0.001
307739-7	CZ1-BH13		10 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307846-5	CZ25_BH52		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307847-2	CZ4e-MW01		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307847-3	CZ4e-MW02		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307847-1	CZ4e-MW03		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	0.01	0.03	-	-	<5	-	<0.0005	<5	<0.001
308537-1	CZ4w_MW08		19 Oct 2022	Water	Normal	-	-	-	-	<0.01	<0.02	-	-	<0.01	<0.01	-	-	<5	<0.005	-	<5	-
308537-2	CZ4w_QC201	CZ4w_MW08	19 Oct 2022	Water	Field_D	-	-	-	-	<0.01	<0.02	-	-	<0.01	<0.01	-	-	<5	<0.005	-	<5	-
308538-2	CZ6_MW05		19 Oct 2022	Water	Normal	-	-	-	-	<0.01	<0.02	-	-	0.02	0.02	-	-	<5	0.045	-	<5	-
308538-1	CZ6_MW07		19 Oct 2022	Water	Normal	-	-	-	-	<0.01	<0.02	-	-	0.42	0.72	-	-	<5	0.037	-	<5	-
308538-3	CZ6_QC201	CZ6_MW07	19 Oct 2022	Water	Field_D	-	-	-	-	<0.01	<0.02	-	-	0.04	0.05	-	-	<5	0.006	-	<5	-
308061-1	MW_BH04		13 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307925-3	SMW_ENV009		12 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	0.06	-	-	<5	-	<0.0005	<5	<0.001
307925-4	QC03	SMW_ENV009	12 Oct 2022	Water	Field_D	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	0.04	-	-	<5	-	<0.0005	<5	<0.001
ES2236730001	QC04	SMW_ENV009	12 Oct 2022	Water	Interlab_D	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	<0.01	<2	<2	<2	-	-	<2	-
307925-2	SMW_ENV039		12 Oct 2022	Water	Normal	<0.5	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307739-2	SMW_ENV042		10 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307739-1	SMW_ENV083		10 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	0.01	<0.02	<0.02	-	0.19	0.96	-	-	<5	-	<0.0005	<5	<0.001
307739-6	SMW_ENV149		10 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
307846-1	SMW_ENV224		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	0.02	0.11	-	-	<5	-	<0.0005	<5	<0.001
307739-3	SMW_ENV234		10 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
308538-4	SMW_ENV283_s		19 Oct 2022	Water	Normal	-	-	-	-	<0.01	<0.02	-	-	0.03	0.04	-	-	-	0.007	-	-	-
307739-4	QC01	SMW_ENV234	10 Oct 2022	Water	Field_D	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	-	<0.01	0.02	-	-	<5	-	<0.0005	<5	<0.001
ES2236434001	QC02	SMW_ENV234	10 Oct 2022	Water	Interlab_D	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	-	0.01	<2	<2	<2	-	-	<2	-
307925-1	SMW_WTP_BH13		12 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001
308061-2	SMW_WTP_BH23		13 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	0.01	<0.02	<0.02	-	<0.01	0.01	-	-	<5	-	<0.0005	<5	<0.001
307846-2	SMW_WTP_BH25		11 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	0.01	<0.02	<0.02	-	<0.01	0.01	-	-	<5	-	<0.0005	<5	<0.001
307925-6	SMW-ADD_BH02		12 Oct 2022	Water	Normal	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	<0.01	-	-	<5	-	<0.0005	<5	<0.001

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

							Phthalates						Solvents						
						Phosalone	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Cyclohexane	Isophorone	Vinyl acetate
						mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L
EQL						0.002	10	2	2	2	2	2	50	50	50	5	0.001	2	50
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)																			
PFAS NEMP 2020 Interim Marine 95%																			
ANZECC 2000 SE Aust Triggers - Estuaries																			
NEPM 2013 Table 1C GILs, Marine Waters																			
Sample Code	**Field ID**	**Parent Sample**	**Date**	**Matrix Type**	**Sample Type**														
307846-3	**C25_MW16**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307739-7	**CZ1-BH13**		**10 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307846-5	**CZ25_BH52**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307847-2	**CZ4e-MW01**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307847-3	**CZ4e-MW02**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307847-1	**CZ4e-MW03**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308537-1	**CZ4w_MW08**		**19 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308537-2	**CZ4w_QC201**	**CZ4w_MW08**	**19 Oct 2022**	**Water**	**Field_D**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308538-2	**CZ6_MW05**		**19 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308538-1	**CZ6_MW07**		**19 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308538-3	**CZ6_QC201**	**CZ6_MW07**	**19 Oct 2022**	**Water**	**Field_D**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308061-1	**MW_BH04**		**13 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307925-3	**SMW_ENV009**		**12 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307925-4	**QC03**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Field_D**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
ES2236730001	**QC04**	**SMW_ENV009**	**12 Oct 2022**	**Water**	**Interlab_D**	-	<10	<2	<2	<2	<2	<2	<50	<50	<50	<5	-	<2	<50
307925-2	**SMW_ENV039**		**12 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307739-2	**SMW_ENV042**		**10 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307739-1	**SMW_ENV083**		**10 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307739-6	**SMW_ENV149**		**10 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307846-1	**SMW_ENV224**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307739-3	**SMW_ENV234**		**10 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308538-4	**SMW_ENV283_s**		**19 Oct 2022**	**Water**	**Normal**	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-
307739-4	**QC01**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Field_D**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
ES2236434001	**QC02**	**SMW_ENV234**	**10 Oct 2022**	**Water**	**Interlab_D**	-	<10	<2	<2	<2	<2	<2	<50	<50	<50	<5	-	<2	<50
307925-1	**SMW_WTP_BH13**		**12 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
308061-2	**SMW_WTP_BH23**		**13 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307846-2	**SMW_WTP_BH25**		**11 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
307925-6	**SMW-ADD_BH02**		**12 Oct 2022**	**Water**	**Normal**	<0.002	<50	<10	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

Environmental Standards

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

DoE, 2000, ANZECC 2000 SE Aust Triggers - Estuaries

2013, NEPM 2013 Table 1C GILs, Marine Waters

Table T2 - RPD Summary Table

Field or Interlab Duplicates

				Arsenic Speciation						NA											
				Dimethylarsinic Acid (DMA)	Dimethylarsinic Acid (DMA) (filtered)	Methylarsonic acid (MMA)	Methylarsonic acid (MMA) (filtered)	Arsenobetaine (ASB)	Arsenobetaine (ASB) (filtered)	Arsenic Acid, As (V)	Arsenic Acid, As (V) (filtered)	Arsenious Acid, As (III)	Arsenious Acid, As (III) (filtered)	Redox Potential (Lab)	pH Redox	pH (Lab)	Electrical Conductivity (Lab)	Dissolved Oxygen	TDS	Chloride	Sulfate as SO4 - Turbidimetric (filtered)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mV	-	-	µS/cm	mg/L	mg/L	mg/L	mg/L
EQL				1	1	1	1	1	1	0.5	0.5	0.5	0.5	0.1	0.01	0.01	1	0.1	5	1	1
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	-	-	-	-	-	-	-	-	-	-	101	-	6.1	-	9.1	9,100	3,900	-
300546	**QA1**	**Water**	**13 Jul 2022**	-	-	-	-	-	-	-	-	-	-	106	-	6.1	-	8.1	8,900	3,900	-
RPD				-	-	-	-	-	-	-	-	-	-	5	-	0	-	12	2	0	-
300546	**ENV_293**	**Water**	**13 Jul 2022**	-	-	-	-	-	-	-	-	-	-	101	-	6.1	-	9.1	9,100	3,900	-
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	-	-	-	-	-	-	-	-	-	-	114	6.20	7.07	13,300	5.3	8,680	4,730	840
RPD				-	-	-	-	-	-	-	-	-	-	12	-	15	-	53	5	19	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	1,100	220	-
300573	**QA2**	**Water**	**15 Jul 2022**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	1,100	240	-
RPD				0	-	0	-	0	-	0	-	0	-	-	-	-	-	-	0	9	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	1,100	220	-
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	-	<1	-	<1	-	<1	-	1.2	-	1.1	21.2	6.63	7.30	1,720	4.7	962	256	333
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	15	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	1,000	280	-
301190	**QA3**	**Water**	**22 Jul 2022**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	940	270	-
RPD				0	-	0	-	0	-	0	-	0	-	-	-	-	-	-	6	4	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	1,000	280	-
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	-	-	-	-	-	-	-	-	-	-	53.0	6.95	7.08	1,720	6.2	1,040	331	67
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	17	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

				Physico-Chemical & Major Ions														Inorganic			
				Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Anions Total	Cations Total	Ionic Balance	Hardness as CaCO3 (filtered)	Hardness as CaCO3 (filtered)	Electrical Conductivity (Non Compensated)	Ammonia as N	Ammonia as N (filtered)	Kjeldahl Nitrogen Total
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	mg/L	ngCaCO3/l	µS/cm	mg/L	mg/L	mg/L
EQL				1	1	1	1	1	0.5	0.5	0.5	0.5	0.01	0.01	0.01	1		1	0.005	0.005	0.1
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	900	<5	<5	200	200	120	330	2,000	11	-	-	-4.0	-	1,600	13,000	-	0.18	0.2
300546	**QA1**	**Water**	**13 Jul 2022**	900	<5	<5	190	190	120	330	1,900	10	-	-	-7.0	-	1,600	13,000	-	0.19	0.2
RPD				0	0	0	5	5	0	0	5	10	-	-	55	-	0	0	-	5	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	900	<5	<5	200	200	120	330	2,000	11	-	-	-4.0	-	1,600	13,000	-	0.18	0.2
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	-	<1	<1	186	186	131	316	2,210	9	155	129	9.07	1,630	-	-	0.170	-	-
RPD				-	0	0	7	7	9	4	10	20	-	-	516	-	-	-	-	-	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	300	<5	<5	230	230	36	66	220	19	-	-	0	-	360	-	-	0.16	-
300573	**QA2**	**Water**	**15 Jul 2022**	310	<5	<5	250	250	36	66	220	19	-	-	-2.0	-	360	-	-	0.16	-
RPD				3	0	0	8	8	0	0	0	0	-	-	200	-	0	-	-	0	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	300	<5	<5	230	230	36	66	220	19	-	-	0	-	360	-	-	0.16	-
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	-	<1	<1	211	211	41	66	220	20	18.4	17.6	2.26	374	-	-	0.18	-	0.4
RPD				-	0	0	9	9	13	0	0	5	-	-	200	-	-	-	-	-	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	56	<5	<5	440	440	92	160	1,800	180	-	-	70	-	880	-	-	17	-
301190	**QA3**	**Water**	**22 Jul 2022**	54	<5	<5	450	450	88	150	1,600	170	-	-	68	-	860	-	-	15	-
RPD				4	0	0	2	2	4	6	12	6	-	-	3	-	2	-	-	12	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	56	<5	<5	440	440	92	160	1,800	180	-	-	70	-	880	-	-	17	-
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	-	<1	<1	409	409	68	26	256	24	18.9	17.3	4.48	277	-	-	2.75	-	3.0
RPD				-	0	0	7	7	30	144	150	153	-	-	176	-	-	-	-	-	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods vai**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

				Nutrients									Metals								
				Nitrate (as N)	Nitrate (as N) (filtered)	Nitrite (as N)	Nitrite (as N) (filtered)	Nitrite + Nitrate as N	Nitrogen (Total)	Total Phosphorus as P (Organic Phosphate as P)	Reactive Phosphorus as P (Orthophosphate as P)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)	Chromium (Trivalent)	Chromium (Trivalent) (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Iron (filtered)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L
EQL				0.002	0.002	0.002	0.002	0.002	0.01	0.005	0.001	0.001	0.005	1	0.05	0.001	0.001	0.001	0.2	0.5	0.01
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	-	1.0	-	0.12	-	1.4	-	-	0.007	<0.01	<1	0.1	<0.001	<0.005	-	<1	1	-
300546	**QA1**	**Water**	**13 Jul 2022**	-	1.0	-	0.12	-	1.4	-	-	0.007	<0.01	<1	0.2	<0.001	<0.005	-	<1	1	-
RPD				-	0	-	0	-	0	-	-	0	0	0	67	0	0	-	0	0	-
300546	**ENV_293**	**Water**	**13 Jul 2022**	-	1.0	-	0.12	-	1.4	-	-	0.007	<0.01	<1	0.1	<0.001	<0.005	-	<1	1	-
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	1.02	-	0.099	-	1.12	1.88	0.032	-	0.019	0.005	-	0.14	<0.001	<0.001	-	<0.2	1.8	-
RPD				-	-	-	-	-	29	-	-	92	0	-	33	0	0	-	0	57	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	-	-	-	-	-	0.4	-	-	<0.005	<0.01	2	<0.1	<0.005	-	-	<1	<1	7.7
300573	**QA2**	**Water**	**15 Jul 2022**	-	-	-	-	-	0.4	-	-	<0.005	<0.01	2	<0.1	<0.005	-	-	<1	<1	7.8
RPD				-	-	-	-	-	0	-	-	0	0	0	0	0	-	-	0	0	1
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	-	-	-	-	-	0.4	-	-	<0.005	<0.01	2	<0.1	<0.005	-	-	<1	<1	7.7
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<0.01	-	<0.01	-	<0.01	0.4	0.02	<0.01	-	<0.005	-	<0.05	<0.001	-	<0.001	<1	-	-
RPD				-	-	-	-	-	0	-	-	-	0	-	0	0	-	-	0	-	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	-	-	-	-	-	13	-	-	<0.05	0.01	9	<0.1	<0.005	-	-	3	<1	480
301190	**QA3**	**Water**	**22 Jul 2022**	-	-	-	-	-	14	-	-	<0.05	0.01	10	<0.1	<0.005	-	-	4	<1	490
RPD				-	-	-	-	-	7	-	-	0	0	11	0	0	-	-	29	0	2
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	-	-	-	-	-	13	-	-	<0.05	0.01	9	<0.1	<0.005	-	-	3	<1	480
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	0.26	-	<0.01	-	0.26	3.3	0.16	<0.01	-	0.011	-	<0.05	<0.010 #2	-	<0.010 #2	3	-	-
RPD				-	-	-	-	-	119	-	-	-	10	-	0	0	-	-	0	-	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods vai**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

Lab Report Number	Field ID	Matrix Type	Date	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene	Naphthalene (BTEX)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)
										BTEX								TRH			
				µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	0.005	0.005	1	0.05	1	1	1	1	2	1	2	1	1	10	10	50	50
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	1.1	<0.05	7	<0.05	6	<1	<1	<1	<2	<1	-	<1	<1	<10	<10	<50	<50
300546	**QA1**	**Water**	**13 Jul 2022**	<1	1	<0.05	6	<0.05	4	<1	<1	<1	<2	<1	-	<1	<1	<10	<10	<50	<50
RPD				0	10	0	15	0	40	0	0	0	0	0	-	0	0	0	0	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	1.1	<0.05	7	<0.05	6	<1	<1	<1	<2	<1	-	<1	<1	<10	<10	<50	<50
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	-	-	0.008	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<20	<20	<100	<100
RPD				-	-	0	-	-	-	0	0	0	0	0	-	0	0	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	1.4	<0.05	2	<0.05	4	<1	<1	<1	<2	<1	-	<1	<1	<10	<10	<50	<50
300573	**QA2**	**Water**	**15 Jul 2022**	<1	1.4	<0.05	2	<0.05	5	<1	<1	<1	<2	<1	-	<1	<1	<10	<10	<50	<50
RPD				0	0	0	0	0	22	0	0	0	0	0	-	0	0	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	1.4	<0.05	2	<0.05	4	<1	<1	<1	<2	<1	-	<1	<1	<10	<10	<50	<50
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<20	<20	<100	<100
RPD				-	-	-	-	-	-	0	0	0	0	0	-	0	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	1.4	<0.05	<1	0.4	<1	<1	<1	<1	<2	<1	-	<1	<10	<100	<10	110	110
301190	**QA3**	**Water**	**22 Jul 2022**	<1	1.4	<0.05	<1	0.3	<1	<1	<1	<1	<2	<1	-	<1	<10	<100	<10	120	120
RPD				0	0	0	0	29	0	0	0	0	0	0	-	0	0	0	0	9	9
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	1.4	<0.05	<1	0.4	<1	<1	<1	<1	<2	<1	-	<1	<10	<100	<10	110	110
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	-	-	-	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<20	<20	<100	<100
RPD				-	-	-	-	-	-	0	0	0	0	0	-	0	0	0	0	10	10

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods vaı**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

							MAH									Halogenated Hydrocarbons					
				C16-C34	C34-C40	C10-C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,1,1,2-tetrachloroethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				100	100	50	1	1	1	1	1	1	1	1	1	1	10	10	5	10	1
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
300546	**QA1**	**Water**	**13 Jul 2022**	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
300573	**QA2**	**Water**	**15 Jul 2022**	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	500	<100	610	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
301190	**QA3**	**Water**	**22 Jul 2022**	530	<100	650	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
RPD				6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	500	<100	610	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5
RPD				133	0	144	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods va**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

				Chlorinated Hydrocarbons																	
				1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
300546	**QA1**	**Water**	**13 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
300573	**QA2**	**Water**	**15 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
301190	**QA3**	**Water**	**22 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

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*****Interlab Duplicates are matched on a per compound basis as methods va**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

Lab Report Number	Field ID	Matrix Type	Date	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	Benzo(b+j+k)fluoranthene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	10	1	1	1	1	5	2	1	1	1	1	10	0.002	2	2	2	2
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
300546	**QA1**	**Water**	**13 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50	-	<2	<2	<2	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
300573	**QA2**	**Water**	**15 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50	<0.004	<2	<2	<2	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
301190	**QA3**	**Water**	**22 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	<10	<1	<1	<1	<1	<5	<2	<1	<1	<1	<1	<10	<0.002	<2	<2	<2	<2
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50	-	<2	<2	<2	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

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*****Interlab Duplicates are matched on a per compound basis as methods var**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

				PAH																	
				Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of positives)	C6-C9	C10-C14
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
EQL				1	1	1	1	0.5	1	1	1	1	1	1	1	1	0.005	0.0005	0.001	10	50
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50
300546	**QA1**	**Water**	**13 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.0005	-	<20	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50
300573	**QA2**	**Water**	**15 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<10	<50
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.0005	-	<20	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<100	50
301190	**QA3**	**Water**	**22 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<100	55
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	10
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	-	0[#1]	<100	50
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.0005	-	<20	<50
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods va**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

				TPH			Perfluoroalkyl Sulfonic Acids							Perfluoroalkyl Carboxylic Acid							
				C15-C28	C29-C36	C10-C36 (Sum of total)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				100	50	50	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
Lab Report Number	**Field ID**	**Matrix Type**	**Date**																		
300546	**ENV_293**	**Water**	**13 Jul 2022**	<100	<100	<50	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02
300546	**QA1**	**Water**	**13 Jul 2022**	<100	<100	<50	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<100	<100	<50	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<100	<50	<50	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.01	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<100	<100	<50	0.02	<0.01	0.05	<0.01	0.02	<0.02	0.07	0.05	0.02	0.02	0.02	0.02	<0.01	<0.02	<0.02
300573	**QA2**	**Water**	**15 Jul 2022**	<100	<100	<50	0.02	<0.01	0.04	<0.01	0.02	<0.02	0.07	0.05	0.02	0.02	0.01	0.02	<0.01	<0.02	<0.02
RPD				0	0	0	0	0	22	0	0	0	0	0	0	0	67	0	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<100	<100	<50	0.02	<0.01	0.05	<0.01	0.02	<0.02	0.07	0.05	0.02	0.02	0.02	0.02	<0.01	<0.02	<0.02
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<100	<50	<50	<0.02	<0.02	0.04	<0.02	0.02	<0.02	0.06	<0.1	<0.02	0.02	<0.02	0.02	<0.02	<0.02	<0.02
RPD				0	0	0	0	0	22	0	0	0	15	0	0	0	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	500	<100	550	<0.01	<0.01	0.03	<0.01	<0.01	<0.02	0.03	<0.02	0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02
301190	**QA3**	**Water**	**22 Jul 2022**	560	<100	610	<0.01	<0.01	0.02	<0.01	<0.01	<0.02	0.02	<0.02	0.02	0.01	<0.01	0.01	<0.01	<0.02	<0.02
RPD				11	0	10	0	0	40	0	0	0	40	0	0	0	0	0	0	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	500	<100	550	<0.01	<0.01	0.03	<0.01	<0.01	<0.02	0.03	<0.02	0.02	0.01	<0.01	<0.01	<0.01	<0.02	<0.02
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<100	<50	<50	<0.02	<0.02	0.02	<0.02	0.01	<0.02	0.03	0.2	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02
RPD				133	0	167	0	0	40	0	0	0	0	164	0	0	0	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods vai**

Table T2 - RPD Summary Table

Field or Interlab Duplicates

Lab Report Number	Field ID	Matrix Type	Date	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoroalkyl Sulfonamides: Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Fluorotelomer Sulfonic Acids: 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)	PFAS Totals: Sum of US EPA PFAS (PFOS + PFOA)*	Sum of PFAS	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.01	10	2
300546	**ENV_293**	**Water**	**13 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.01	<50	<10
300546	**QA1**	**Water**	**13 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.01	<50	<10
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300546	**ENV_293**	**Water**	**13 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.01	<50	<10
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	-	<0.01	<10	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.04	0.22	<50	<10
300573	**QA2**	**Water**	**15 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.05	0.22	<50	<10
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.04	0.22	<50	<10
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	-	0.10	<10	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	75	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.06	<50	<10
301190	**QA3**	**Water**	**22 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.01	0.07	<50	<10
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.06	<50	<10
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	-	0.23	<10	<2
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	117	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods va**

Field or Interlab Duplicates

Lab Report Number	Field ID	Matrix Type	Date	Phthalates				Solvents						
				Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Cyclohexane	Isophorone	Vinyl acetate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L
EQL				2	2	2	2	50	50	50	5	0.001	2	50
300546	**ENV_293**	**Water**	**13 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
300546	**QA1**	**Water**	**13 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
RPD				0	0	0	0	-	-	-	-	0	0	-
300546	**ENV_293**	**Water**	**13 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
ES2225074	**QA1-S**	**Water**	**13 Jul 2022**	<2	<2	<2	<2	<50	<50	<50	<5	-	<2	<50
RPD				0	0	0	0	-	-	-	-	-	0	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
300573	**QA2**	**Water**	**15 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
RPD				0	0	0	0	-	-	-	-	0	0	-
300573	**SMW_BH057_**	**Water**	**15 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
ES2225151	**QA2_S**	**Water**	**15 Jul 2022**	<2	<2	<2	<2	<50	<50	<50	<5	-	<2	<50
RPD				0	0	0	0	-	-	-	-	-	0	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
301190	**QA3**	**Water**	**22 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
RPD				0	0	0	0	-	-	-	-	0	0	-
301190	**SMW_ENV089**	**Water**	**22 Jul 2022**	<10	<10	<10	<10	-	-	-	-	<0.001	<5	-
ES2226073	**QA3_S**	**Water**	**22 Jul 2022**	<2	<2	<2	<2	<50	<50	<50	<5	-	<2	<50
RPD				0	0	0	0	-	-	-	-	-	0	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 tir**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RP**

*****Interlab Duplicates are matched on a per compound basis as methods va**

			NA		Physico-Chemical & Major Ions																		
			Arsenic Acid, As (V) (filtered)	Arsenious Acid, As (III) (filtered)	Redox Potential (Lab)	pH Redox	pH (Lab)	Electrical Conductivity (Lab)	Dissolved Oxygen	TDS	Chloride	Sulfate as SO4 - Turbidimetric (filtered)	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Anions Total	Cations Total
			µg/L	µg/L	mV	-	-	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L
EQL			0.5	0.5	0.1	0.01	0.01	1	0.1	5	1	1	1	1	1	1	1	0.5	0.5	0.5	0.5	0.01	0.01
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	-	-	-8	-	6.5	-	6.6	38,000	17,000	-	1,300	<5	<5	530	530	770	1,500	8,900	93	-	-
307739	**QC01**	**10 Oct 2022**	-	-	-14	-	6.5	-	7.7	42,000	16,000	-	1,300	<5	<5	520	520	790	1,600	9,300	93	-	-
RPD			-	-	55	-	0	-	15	10	6	-	0	0	0	2	2	3	6	4	0	-	-
307739	**SMW_ENV234**	**10 Oct 2022**	-	-	-8	-	6.5	-	6.6	38,000	17,000	-	1,300	<5	<5	530	530	770	1,500	8,900	93	-	-
ES2236434	**QC02**	**10 Oct 2022**	<4.0#2	9.5	-45.0	6.71	6.76	44,600	7.2	29,500	15,300	1,230	-	<1	<1	416	416	922	1,580	8,860	134	466	565
RPD			-	-	140	-	4	-	9	25	11	-	-	0	0	24	24	18	5	0	36	-	-
307925	**SMW_ENV009**	**12 Oct 2022**	-	-	-30	-	7.1	-	8.4	1,100	100	-	180	<5	<5	730	730	130	72	190	17	-	-
307925	**QC03**	**12 Oct 2022**	-	-	-25	-	7.1	-	8.6	1,200	110	-	180	<5	<5	700	700	130	70	180	17	-	-
RPD			-	-	18	-	0	-	2	9	10	-	0	0	0	4	4	0	3	5	0	-	-
307925	**SMW_ENV009**	**12 Oct 2022**	-	-	-30	-	7.1	-	8.4	1,100	100	-	180	<5	<5	730	730	130	72	190	17	-	-
ES2236730	**QC04**	**12 Oct 2022**	<0.5	0.6	220	7.29	7.30	1,780	6.2	1,100	137	200	-	<1	<1	650	650	136	79	176	20	21.0	21.4
RPD			-	-	263	-	3	-	30	0	31	-	-	0	0	12	12	5	9	8	16	-	-
308297	**PM_BH14**	**17 Oct 2022**	-	-	85	-	6.4	-	9.5	440	52	-	89	<5	<5	110	110	7.0	8.6	110	2	-	-
308297	**QC05**	**17 Oct 2022**	-	-	89	-	6.4	-	9.7	420	52	-	89	<5	<5	110	110	6.6	8.2	110	2	-	-
RPD			-	-	5	-	0	-	2	5	0	-	0	0	0	0	0	6	5	0	0	-	-
308297	**PM_BH14**	**17 Oct 2022**	-	-	85	-	6.4	-	9.5	440	52	-	89	<5	<5	110	110	7.0	8.6	110	2	-	-
ES2237288	**QC06**	**17 Oct 2022**	-	-	216	6.77	6.76	611	6.0	433	50	118	-	<1	<1	98	98	6	9	108	2	5.82	5.79
RPD			-	-	87	-	5	-	45	2	4	-	-	0	0	12	12	15	5	2	0	-	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

						Inorganics	Nutrients																
			Ionic Balance	Hardness as CaCO3 (filtered)	Hardness as CaCO3 (filtered)	Electrical Conductivity (Non Compensated)	Ammonia as N	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Nitrate (as N)	Nitrate (as N) (filtered)	Nitrite (as N)	Nitrite (as N) (filtered)	Nitrite + Nitrate as N	Nitrogen (Total)	Total Phosphorus as P (Organic Phosphate as P)	Reactive Phosphorus as P (Orthophosphate as P)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)	Chromium (Trivalent)
			%	mg/L	ngCaCO3/	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L
EQL			0.01	1		1	0.005	0.005	0.01	0.002	0.002	0.002	0.002	0.002	0.01	0.005	0.001	0.001	0.005	0.2	0.05	0.001	0.001
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	4.0	-	8,100	46,000	-	1.9	2.1	-	<0.02	-	<0.005	-	2.2	-	-	<0.005	<0.01	10	<0.1	<0.001	<0.005
307739	**QC01**	**10 Oct 2022**	9.0	-	8,400	44,000	-	2.4	2.7	-	<0.005	-	<0.005	-	2.7	-	-	<0.005	<0.01	11	<0.1	<0.001	<0.005
RPD			77	-	4	4	-	23	25	-	0	-	0	-	20	-	-	0	0	10	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	4.0	-	8,100	46,000	-	1.9	2.1	-	<0.02	-	<0.005	-	2.2	-	-	<0.005	<0.01	10	<0.1	<0.001	<0.005
ES2236434	**QC02**	**10 Oct 2022**	9.64	8,810	-	-	2.16	-	2.9	<0.10[#2]	-	<0.10[#2]	-	<0.10[#2]	2.9	0.17	<0.05[#2]	-	<0.005	-	<0.2	0.002	-
RPD			83	-	-	-	-	-	32	-	-	-	-	-	27	-	-	-	0	-	0	67	-
307925	**SMW_ENV009**	**12 Oct 2022**	-1.0	-	630	1,800	-	10	11	-	<0.005	-	<0.005	-	11	-	-	<0.005	<0.01	1	<0.1	<0.001	<0.005
307925	**QC03**	**12 Oct 2022**	0	-	610	1,800	-	10	11	-	<0.005	-	<0.005	-	11	-	-	<0.005	<0.01	1	<0.1	<0.001	<0.005
RPD			200	-	3	0	-	0	0	-	0	-	0	-	0	-	-	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	-1.0	-	630	1,800	-	10	11	-	<0.005	-	<0.005	-	11	-	-	<0.005	<0.01	1	<0.1	<0.001	<0.005
ES2236730	**QC04**	**12 Oct 2022**	1.04	665	-	-	9.76	-	8.80	0.002	-	<0.002	-	0.002	8.80	0.260	-	0.015	<0.005	1.0	<0.05	<0.001	<0.001
RPD			10,200	-	-	-	-	-	22	-	-	-	-	-	22	-	-	100	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	6.0	-	53	600	-	0.005	<0.1	-	3.8	-	<0.005	-	3.7	-	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005
308297	**QC05**	**17 Oct 2022**	4.0	-	50	600	-	0.008	<0.1	-	3.9	-	<0.005	-	3.6	-	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005
RPD			40	-	6	0	-	46	0	-	3	-	0	-	3	-	-	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	6.0	-	53	600	-	0.005	<0.1	-	3.8	-	<0.005	-	3.7	-	-	<0.005	<0.01	<1	<0.1	<0.001	<0.005
ES2237288	**QC06**	**17 Oct 2022**	0.31	52	-	-	<0.005	-	<0.20[#2]	3.98	-	<0.002	-	3.98	3.68	0.022	-	0.010	<0.005	-	<0.05	<0.001	<0.001
RPD			180	-	-	-	-	-	0	-	-	-	-	-	1	-	-	67	0	-	0	0	0

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**
****Elevated RPDs are highlighted as per QAQC Profile settings (A**
*****Interlab Duplicates are matched on a per compound basis as**

			Metals									BTEX											
			Chromium (Trivalent) (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene	Naphthalene (BTEX)	Total BTEX	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16
			mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.001	0.2	0.5	1	0.005	0.005	1	0.05	1	1	1	1	2	1	2	1	1	1	10	10	50
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	-	<1	<1	<1	2.1	<0.05	2	<0.05	1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307739	**QC01**	**10 Oct 2022**	-	<1	<1	<1	2.3	<0.05	2	<0.05	<1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
RPD			-	0	0	0	9	0	0	0	0	0	0	0	0	0	-	0	0	-	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	-	<1	<1	<1	2.1	<0.05	2	<0.05	1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
ES2236434	**QC02**	**10 Oct 2022**	<0.010#2	<10#2	<1	-	-	<0.005	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100
RPD			-	0	0	-	-	0	-	-	-	0	0	0	0	0	-	0	0	-	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	-	<1	<1	<1	0.87	<0.05	<1	0.4	1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
307925	**QC03**	**12 Oct 2022**	-	<1	<1	<1	0.88	<0.05	<1	0.4	3	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
RPD			-	0	0	0	1	0	0	0	100	0	0	0	0	0	-	0	0	-	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	-	<1	<1	<1	0.87	<0.05	<1	0.4	1	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
ES2236730	**QC04**	**12 Oct 2022**	-	<0.2	<0.5	-	-	<0.005	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100
RPD			-	0	0	-	-	0	-	-	-	0	0	0	0	0	-	0	0	-	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	-	<1	<1	<1	<0.005	<0.05	<1	<0.05	2	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
308297	**QC05**	**17 Oct 2022**	-	<1	<1	<1	<0.005	<0.05	<1	<0.05	5	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
RPD			-	0	0	0	0	0	0	0	86	0	0	0	0	0	-	0	0	-	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	-	<1	<1	<1	<0.005	<0.05	<1	<0.05	2	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50
ES2237288	**QC06**	**17 Oct 2022**	-	<0.2	4.0	-	-	<0.005	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100
RPD			-	0	120	-	-	0	-	-	-	0	0	0	0	0	-	0	0	-	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

			TRH				MAH									Halogenated Hydrocarbons							
			C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			50	100	100	50	1	1	1	1	1	1	1	1	1	1	10	10	5	10	1	1	1
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<50	180	<100	180	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
307739	**QC01**	**10 Oct 2022**	<50	140	<100	140	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
RPD			0	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	<50	180	<100	180	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
ES2236434	**QC02**	**10 Oct 2022**	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5	<5	<5
RPD			0	57	0	57	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
307925	**QC03**	**12 Oct 2022**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
ES2236730	**QC04**	**12 Oct 2022**	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5	<5	<5
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
308297	**QC05**	**17 Oct 2022**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	-	<10	<1	<1	<1
ES2237288	**QC06**	**17 Oct 2022**	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<5	<50	<5	<5	<5
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

			1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane
			Chlorinated Hydrocarbons																				
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	1	10	1	1	1
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
307739	**QC01**	**10 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
ES2236434	**QC02**	**10 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5
RPD			0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
307925	**QC03**	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
ES2236730	**QC04**	**12 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5
RPD			0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
308297	**QC05**	**17 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1
ES2237288	**QC06**	**17 Oct 2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5
RPD			0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

			Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	Halogenated Benzenes 1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	Benzo(b+j+k)fluoranthene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL			1	5	2	1	1	1	1	10	1	2	1	1	1	1	1	1	1	1	0.2	2	0.002
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002
307739	**QC01**	**10 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002
ES2236434	**QC02**	**10 Oct 2022**	<2	<10	<2	<5	<5	<5	<5	<50	<5	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	-
RPD			0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002
307925	**QC03**	**12 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002
ES2236730	**QC04**	**12 Oct 2022**	<2	<10	<2	<5	<5	<5	<5	<50	<5	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	-
RPD			0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-
308297	**PM_BH14**	**17 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<0.002
308297	**QC05**	**17 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<0.002
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<1	<5	<2	<1	<1	<1	<1	<10	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<0.002
ES2237288	**QC06**	**17 Oct 2022**	<2	<10	<2	<5	<5	<5	<5	<50	<5	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<0.004
RPD			0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

Lab Report Number	Field ID	Date	PAH 2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	PAHs (Sum of total)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL			2	2	2	2	1	1	1	1	0.5	0.001	1	1	1	1	1	1	1	1	1	0.005	0.5
307739	SMW_ENV234	10 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
307739	QC01	10 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
RPD			0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	-
307739	SMW_ENV234	10 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
ES2236434	QC02	10 Oct 2022	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.5
RPD			0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	-	-
307925	SMW_ENV009	12 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
307925	QC03	12 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
RPD			0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	-
307925	SMW_ENV009	12 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
ES2236730	QC04	12 Oct 2022	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.5
RPD			0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	-	-
308297	PM_BH14	17 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
308297	QC05	17 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
RPD			0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	-
308297	PM_BH14	17 Oct 2022	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<0.005	-
ES2237288	QC06	17 Oct 2022	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<0.5
RPD			0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	-	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

				Phenols																			
			PAHs (Sum of positives)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4-Dinitrophenol	2,4,6-Trichlorophenol	2,6-D	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	3&4-Methylphenol (m&p-cresol)	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	4,4-DDE	a-BHC	Aldrin + Dieldrin
			mg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.001	2	2	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	2	4	2	0.2	0.2	0.5
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<10	<0.2	<0.2	-
307739	**QC01**	**10 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<10	<0.2	<0.2	-
RPD			-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
307739	**SMW_ENV234**	**10 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<10	<0.2	<0.2	-
ES2236434	**QC02**	**10 Oct 2022**	-	-	<2	-	<2	<0.01	<2	<2	<2	<2	<2	<4	<2	-	-	<2	<4	<2	<0.5	<0.5	<0.5
RPD			-	-	0	-	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<10	<10	<0.2	<0.2	-
307925	**QC03**	**12 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<10	<10	<0.2	<0.2	-
RPD			-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<100	<10	<10	<10	<0.2	<0.2	-
ES2236730	**QC04**	**12 Oct 2022**	-	-	<2	-	<2	<0.01	<2	<2	<2	<2	<2	<4	<2	-	-	<2	<4	<2	<0.5	<0.5	<0.5
RPD			-	-	0	-	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	-
308297	**PM_BH14**	**17 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<2	<2	<2	-
308297	**QC05**	**17 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<2	<2	<2	-
RPD			-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
308297	**PM_BH14**	**17 Oct 2022**	0[#1]	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<2	<2	<2	-
ES2237288	**QC06**	**17 Oct 2022**	-	-	<2	-	<2	<0.01	<2	<2	<2	<2	<2	<4	<2	-	-	<2	<4	<2	<0.5	<0.5	<0.5
RPD			-	-	0	-	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

			Organochlorine Pesticides																				
			Aldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2
307739	**QC01**	**10 Oct 2022**	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2
RPD			0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2
ES2236434	**QC02**	**10 Oct 2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5
RPD			0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2
307925	**QC03**	**12 Oct 2022**	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2
RPD			0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2
ES2236730	**QC04**	**12 Oct 2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5
RPD			0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
308297	**QC05**	**17 Oct 2022**	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
RPD			0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<2	<2	-	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
ES2237288	**QC06**	**17 Oct 2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5
RPD			0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

			Organophosphorous Pesticides																				
			Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Monocrotophos
			µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.2	0.5	0.5	0.2	0.0002	2	0.5	0.2	0.2	0.2	2	5	0.2	0.2	0.5	0.5	0.2	2	2	2	2
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307739	**QC01**	**10 Oct 2022**	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
RPD			0	-	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-
307739	**SMW_ENV234**	**10 Oct 2022**	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
ES2236434	**QC02**	**10 Oct 2022**	<0.5	<0.5	<0.5	<0.5	<0.0005	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0
RPD			0	-	-	0	0	-	-	0	0	0	-	-	0	-	0	0	0	-	-	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
307925	**QC03**	**12 Oct 2022**	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
RPD			0	-	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	<0.2	-	-	<0.2	<0.0002	<2	-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-
ES2236730	**QC04**	**12 Oct 2022**	<0.5	<0.5	<0.5	<0.5	<0.0005	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0
RPD			0	-	-	0	0	-	-	0	0	0	-	-	0	-	0	0	0	-	-	0	-
308297	**PM_BH14**	**17 Oct 2022**	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	-
308297	**QC05**	**17 Oct 2022**	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	-
RPD			0	-	-	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-
308297	**PM_BH14**	**17 Oct 2022**	<2	-	-	<0.2	<0.002	<2	-	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	-
ES2237288	**QC06**	**17 Oct 2022**	<0.5	<0.5	<0.5	<0.5	<0.0005	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0
RPD			0	-	-	0	0	-	-	0	0	0	-	-	0	-	0	0	0	-	-	0	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

									Pesticides			Perfluoroalkyl Sulfonic Acids							Perfluoroalkyl Carbo					
			Parathion	Phorate	Prothiofos	Ronnel	Safrole	Chlorobenzilate	Carbazole	Pirimphos-ethyl	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Sum of PFHxS and PFOS	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.2	2	0.5	0.2	5	2	2	0.5	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.04	<0.02	<0.01	<0.01	<0.01	<0.01
307739	**QC01**	**10 Oct 2022**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.04	<0.02	0.02	<0.01	<0.01	<0.01
RPD			0	0	-	0	0	-	0	-	0	0	0	0	0	0	0	0	0	67	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.04	<0.02	<0.01	<0.01	<0.01	<0.01
ES2236434	**QC02**	**10 Oct 2022**	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.01	<0.1	<0.02	<0.02	<0.02	0.01	<0.02
RPD			0	-	-	-	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<0.2	<2	-	<0.2	<5	-	<5	-	0.01	<0.01	0.01	<0.01	<0.01	<0.02	0.01	0.04	<0.02	<0.01	<0.01	<0.01	<0.01
307925	**QC03**	**12 Oct 2022**	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.04	<0.02	<0.01	<0.01	<0.01	<0.01
RPD			0	0	-	0	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<0.2	<2	-	<0.2	<5	-	<5	-	0.01	<0.01	0.01	<0.01	<0.01	<0.02	0.01	0.04	<0.02	<0.01	<0.01	<0.01	<0.01
ES2236730	**QC04**	**12 Oct 2022**	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.01	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02
RPD			0	-	-	-	-	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<2	<2	-	<2	<5	-	<5	-	0.05	0.02	0.21	<0.01	0.20	<0.02	0.41	0.05	0.2	0.17	0.07	0.13	<0.01
308297	**QC05**	**17 Oct 2022**	<2	<2	-	<2	<5	-	<5	-	0.06	0.02	0.20	<0.01	0.21	<0.02	0.42	0.05	0.2	0.18	0.07	0.13	<0.01
RPD			0	0	-	0	0	-	0	-	18	0	5	0	5	0	2	0	0	6	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<2	<2	-	<2	<5	-	<5	-	0.05	0.02	0.21	<0.01	0.20	<0.02	0.41	0.05	0.2	0.17	0.07	0.13	<0.01
ES2237288	**QC06**	**17 Oct 2022**	<2.0	-	<0.5	-	-	<2	<2	<0.5	0.06	<0.02	0.18	<0.02	0.20	<0.02	0.38	<0.1	0.17	0.18	0.06	0.13	<0.02
RPD			0	-	-	-	-	-	0	-	18	0	15	0	0	0	8	0	16	6	15	0	0

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

			xylic Acid					Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				PFAS Totals	Phthalates			
			Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	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)	Sum of PFAS	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.02	0.02	0.01	10	2	2	2
Lab Report Number	**Field ID**	**Date**																					
307739	**SMW_ENV234**	**10 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.01	<50	<10	<10	<10
307739	**QC01**	**10 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	0.02	<50	<10	<10	<10
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67	0	0	0	0
307739	**SMW_ENV234**	**10 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.01	<50	<10	<10	<10
ES2236434	**QC02**	**10 Oct 2022**	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.01	<10	<2	<2	<2
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.06	<50	<10	<10	<10
307925	**QC03**	**12 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.04	<50	<10	<10	<10
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0
307925	**SMW_ENV009**	**12 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	0.06	<50	<10	<10	<10
ES2236730	**QC04**	**12 Oct 2022**	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	<10	<2	<2	<2
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	1.1	<50	<10	<10	<10
308297	**QC05**	**17 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	1.1	<50	<10	<10	<10
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
308297	**PM_BH14**	**17 Oct 2022**	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	1.1	<50	<10	<10	<10
ES2237288	**QC06**	**17 Oct 2022**	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.98	<10	<2	<2	<2
RPD			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0

Comments
#1 NIL (+)VE
#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**
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*****Interlab Duplicates are matched on a per compound basis as**

					Solvents						
			Di-n-butyl phthalate	Di-n-octyl phthalate	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Cyclohexane	Isophorone	Vinyl acetate
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L
EQL			2	2	50	50	50	5	0.001	2	50
Lab Report Number	**Field ID**	**Date**									
307739	**SMW_ENV234**	**10 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
307739	**QC01**	**10 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
RPD			0	0	-	-	-	-	0	0	-
307739	**SMW_ENV234**	**10 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
ES2236434	**QC02**	**10 Oct 2022**	<2	<2	<50	<50	<50	<5	-	<2	<50
RPD			0	0	-	-	-	-	-	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
307925	**QC03**	**12 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
RPD			0	0	-	-	-	-	0	0	-
307925	**SMW_ENV009**	**12 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
ES2236730	**QC04**	**12 Oct 2022**	<2	<2	<50	<50	<50	<5	-	<2	<50
RPD			0	0	-	-	-	-	-	0	-
308297	**PM_BH14**	**17 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
308297	**QC05**	**17 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
RPD			0	0	-	-	-	-	0	0	-
308297	**PM_BH14**	**17 Oct 2022**	<10	<10	-	-	-	-	<0.001	<5	-
ES2237288	**QC06**	**17 Oct 2022**	<2	<2	<50	<50	<50	<5	-	<2	<50
RPD			0	0	-	-	-	-	-	0	-

Comments

#1 NIL (+)VE

#2 Reported Analyte LOR is higher than Requested Analyte LOR

***RPDs have only been considered where a concentration is grea**

****Elevated RPDs are highlighted as per QAQC Profile settings (A**

*****Interlab Duplicates are matched on a per compound basis as**

APPENDIX C – REGISTERED BORES

Registered Groundwater Monitoring Wells						
Bore ID	Type	Status	Easting	Northing	Total depth (m)	Drilled bore depth (m)
GW062300	Bore	Unknown	314910	6258428	100	100
GW100682	Bore	Unknown	317571	6254064	8.9	
GW100684	Bore	Unknown	317571	6254064	9.5	
GW104226	Bore	Unknown	318600	6255366	2.2	
GW104257	Bore	Unknown	317819	6255068	10.5	10.5
GW104258	Bore	Unknown	317823	6255093	9	9
GW105352	Bore	Unknown	317032	6254860	6	6
GW105353	Bore	Unknown	317071	6254914	6	6
GW105354	Bore	Unknown	317019	6254897	6	6
GW105424	Bore	Unknown	314796	6253922	25.6	25.6
GW105488	Bore	Unknown	314158	6254437	6.9	6.9
GW105489	Bore	Unknown	314177	6254431	6.5	6.5
GW105490	Bore	Unknown	314179	6254420	6.5	6.5
GW105491	Bore	Unknown	314148	6254428	6.5	6.5
GW107471	Bore	Unknown	318923	6255439		
GW107473	Bore	Unknown	314154	6254415	6.5	6.5
GW107474	Bore	Unknown	314136	6254454	5.7	
GW107659	Bore	Unknown	318840	6256088	145.3	145.3
GW107978	Bore	Unknown	316898	6255613	6	
GW107979	Bore	Unknown	316897	6255605	6	
GW107980	Bore	Unknown	316904	6255603	6	
GW107981	Bore	Unknown	316900	6255599	6	
GW107982	Bore	Unknown	316903	6255596	6	
GW107983	Bore	Unknown	316893	6255589	6	
GW108247	Bore	Unknown	315012	6258684	102	102
GW108378	Bore	Unknown	313516	6257945	282	282
GW108482	Bore	Unknown	318477	6255276	5.5	5.5
GW109867	Well	Unknown	317513	6256265	6	6
GW109868	Well	Unknown	317683	6256234	12	12
GW109869	Well	Unknown	317689	6256234	6	6
GW109870	Well	Unknown	317848	6256193	5.5	5.5
GW109871	Well	Unknown	318990	6255802	6	6
GW109872	Well	Unknown	319010	6255786	12	12
GW109873	Well	Unknown	319009	6255787	5	5
GW109874	Well	Unknown	319032	6255828	5.5	5.5
GW109875	Well	Unknown	319103	6255805	6	6
GW109876	Well	Unknown	319064	6255852	5	5
GW109888	Well	Unknown	318883	6255986	6	
GW109889	Well	Unknown	318907	6256110	5	
GW109988	Well	Unknown	318944	6256190	5.5	5.5
GW109989	Well	Unknown	318991	6256164	5	5
GW109990	Well	Unknown	319060	6256046	12	12
GW109991	Well	Unknown	319060	6256045	5	5
GW109992	Well	Unknown	319095	6255977	5	5
GW109993	Well	Unknown	319124	6255926	5	5
GW109994	Well	Unknown	319057	6255899	3.6	3.6
GW109995	Well	Unknown	318952	6255964	5	5
GW110237	Well	Unknown	318742	6255861	4	4
GW110238	Well	Unknown	318793	6255783	4	4
GW110303	Well	Unknown	313835	6258646	10	10
GW110304	Well	Unknown	313836	6258618	10	10
GW110305	Well	Unknown	313824	6258607	10	10
GW110306	Well	Unknown	313819	6258630	10	
GW110396	Well	Unknown	315243	6255114	7	7
GW110397	Well	Unknown	315067	6255015	5	5
GW110398	Well	Unknown	315109	6254988	6	6
GW110399	Well	Unknown	315306	6255074	5.3	5.3
GW110400	Well	Unknown	315277	6255143	5.4	5.4
GW110401	Well	Unknown	315241	6255134	7	7
GW110402	Well	Unknown	315149	6255077	8	8
GW110403	Well	Unknown	315067	6255036	9	9
GW110403	Well	Unknown	315067	6255036	9	9
GW110404	Well	Unknown	315010	6254993	9	9
GW110713	Well	Unknown	318913	6256198	6.2	6.2
GW110714	Well	Unknown	318866	6256213	10.5	10.5
GW110715	Well	Unknown	318867	6256230	2.6	2.6
GW110716	Piezometer	Unknown	318869	6256231	4.9	4.9
GW110717	Piezometer	Unknown	318868	6256230	6	6
GW110718	Piezometer	Unknown	318867	6256229	7.65	7.65
GW110719	Piezometer	Unknown	318867	6256229	10	10.1
GW110720	Well	Unknown	318894	6256220	6	6
GW110721	Well	Unknown	318914	6256210	6	6
GW110722	Well	Unknown	318931	6256201	6	6
GW110912	Well	Unknown	315997	6257285	10	10

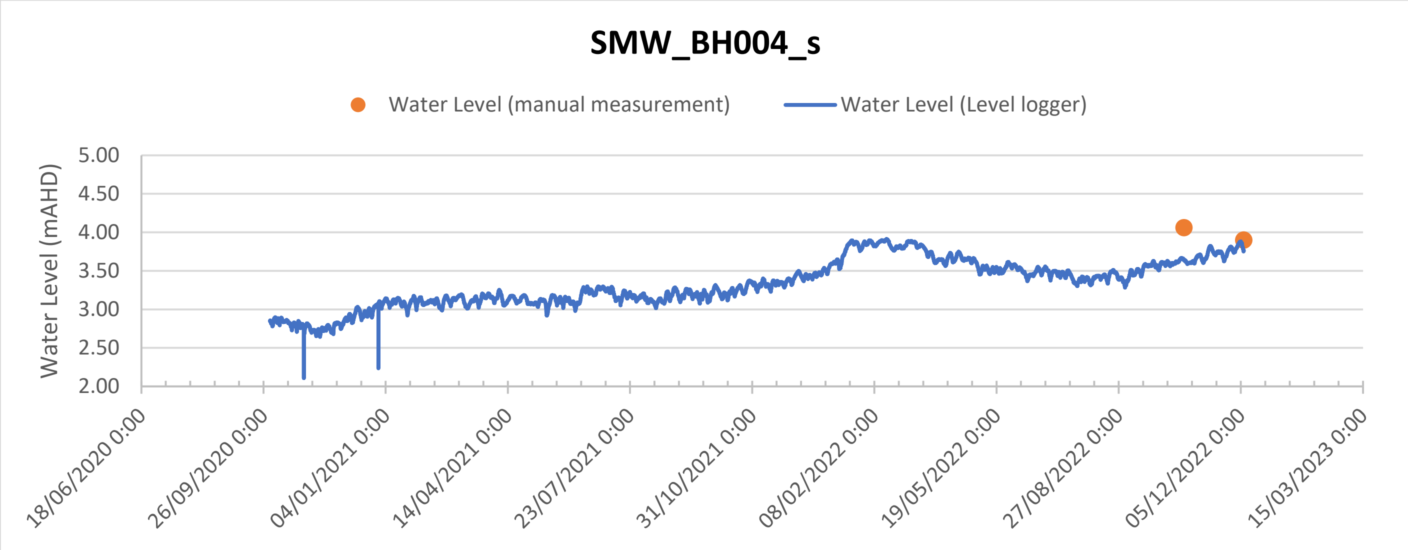
GW110913	Well	Unknown	315992	6257267	10	
GW110914	Well	Unknown	315973	6257260	6	6
GW063660	Bore	Test Hole	318378	6255999	19	19
GW024667	Well	Supply Obtained	316368	6256207	4.5	4.6
GW101120	Bore	Supply Obtained	313385	6258960	60	60
GW104247	Bore	Supply Obtained	318631	6255398	3	3
GW104248	Bore	Supply Obtained	318711	6255429	3	3
GW104249	Bore	Supply Obtained	318773	6255456	3	3
GW104250	Bore	Supply Obtained	318717	6255405	4	4
GW104251	Bore	Supply Obtained	318627	6255339	4	4
GW104252	Bore	Supply Obtained	318642	6255252	1.1	1.1
GW104253	Bore	Supply Obtained	318645	6255195	1.8	1.8
GW104254	Bore	Supply Obtained	318635	6255247	1.6	1.6
GW104255	Bore	Supply Obtained	318670	6255328	4	4
GW104256	Bore	Supply Obtained	317813	6255054	10.5	10.5
GW104256	Bore	Supply Obtained	317813	6255054	10.5	10.5
GW104259	Bore	Supply Obtained	318676	6255341	4	4
GW104260	Bore	Supply Obtained	318675	6255227	3.5	4
GW104261	Bore	Supply Obtained	318567	6255301	3.5	3.5
GW104262	Bore	Supply Obtained	318514	6255287	8	8
GW104621	Bore	Supply Obtained	318722	6256189	42.5	42.5
GW104951	Bore	Supply Obtained	317712	6254884	19.6	19.6
GW104952	Bore	Supply Obtained	317682	6255018	19.6	19.6
GW104953	Bore	Supply Obtained	317448	6254950	19.6	19.6
GW104954	Bore	Supply Obtained	317448	6254936	19.6	19.6
GW104955	Bore	Supply Obtained	317457	6254735	19.6	19.6
GW108611	Bore	Supply Obtained	315129	6257213	60.5	60.5
GW116417	Spear	Supply Obtained	317874.7	6256150.6	8.1	8.1
GW116821	Spear	Supply Obtained	317874	6256150	8.1	14.2
GW205298	Bore	Supply Obtained	316693.6	6253397.5	6	6
GW205299	Spear	Supply Obtained	316695.8	6253412.9	5.1	5.1
GW205300	Spear	Supply Obtained	316684.8	6253406.6	5.1	5.1
GW205301	Spear	Supply Obtained	316559.2	6253335	4	4
GW072260	Bore	Equipped	318818	6255679	5.9	5.9
GW111322	Bore	Equipped	315874	6254859	3.6	3.6
GW111323	Bore	Equipped	315887	6254883	4.1	4.1
GW111324	Bore	Equipped	315863	6254886	8.1	8.1
GW111347	Bore	Equipped	317582	6257123	6	6
GW111348	Bore	Equipped	317547	6257077	6	6
GW111349	Bore	Equipped	317569	6257063	6	6
GW111528	Bore	Equipped	318180	6256020	3.56	3.56
GW111529	Bore	Equipped	318245	6256022	3.7	3.7
GW111990	Well	Equipped	318871	6255858	3	3
GW111991	Well	Equipped	318886	6255890	3	3
GW111992	Well	Equipped	318837	6255882	3	3
GW111993	Well	Equipped	318898	6255837	3	3
GW111994	Well	Equipped	318847	6255823	3	3
GW111995	Well	Equipped	318872	6255917	3	3
GW111996	Well	Equipped	318932	6255868	3	3
GW111997	Well	Equipped	319111	6255618	3	3
GW111998	Well	Equipped	319101	6255643	3	3
GW111999	Well	Equipped	319048	6255649	3	3
GW112000	Well	Equipped	319117	6255600	3	3
GW112001	Well	Equipped	319128	6255632	3	3
GW112002	Well	Equipped	319058	6255576	3	3
GW112003	Well	Equipped	319118	6255589	4	4
GW112004	Well	Equipped	318477	6255276	9	9
GW112005	Well	Equipped	318383	6255201	9	9
GW112006	Well	Equipped	318418	6255214	11	11
GW112007	Well	Equipped	318452	6255195	9	9
GW112008	Well	Equipped	318467	6255169	9	9
GW112009	Well	Equipped	318449	6255152	4	4
GW112010	Well	Equipped	318423	6255160	3	3
GW112011	Well	Equipped	318397	6255147	6	6
GW112012	Well	Equipped	318420	6255144	3	3
GW112013	Well	Equipped	318368	6255170	3.5	3.5
GW112014	Well	Equipped	318388	6255218	3.2	3.2
GW112015	Well	Equipped	318440	6255212	9	9
GW112016	Well	Equipped	318392	6255183	9	9
GW112017	Well	Equipped	318467	6255199	4	4
GW112018	Well	Equipped	318434	6255227	3	3
GW112019	Well	Equipped	318460	6255217	3	3
GW112020	Well	Equipped	318414	6255192	3	3
GW112021	Well	Equipped	318459	6255147	3	3
GW112022	Well	Equipped	318402	6255227	3.5	3.5
GW112023	Well	Equipped	318474	6255186	5.9	5.9
GW112024	Bore	Equipped	318429	6255193	4	4

GW112025	Bore	Equipped	318444	6255176	4	4
GW112026	Bore	Equipped	318394	6255168	4	4
GW112027	Bore	Equipped	318449	6255222	3.5	3.5
GW112028	Bore	Equipped	318435	6255143	3.5	3.5
GW112029	Bore	Equipped	318397	6255199	3.5	3.5
GW112030	Bore	Equipped	318415	6255225	3.5	3.5
GW112031	Well	Equipped	318422	6255229	3.2	3.2
GW112032	Bore	Equipped	318372	6255135	2.5	2.5
GW112033	Bore	Equipped	318428	6255137	9	9
GW112034	Bore	Equipped	318360	6255192	11	11
GW112035	Bore	Equipped	318401	6255134	3	3
GW112036	Well	Equipped	318819	6255681	3.85	3.85
GW112037	Well	Equipped	318828	6255723	4.3	4.3
GW112038	Well	Equipped	318767	6255722	3.5	3.5
GW112039	Well	Equipped	318763	6255655	0.96	0.96
GW112040	Well	Equipped	318852	6255666	1.12	1.12
GW112041	Well	Equipped	318807	6255635	3.5	3.5
GW112042	Well	Equipped	318889	6255696	7	7
GW112043	Well	Equipped	318796	6255741	5	5
GW112155	Bore	Equipped	317521	6256373	6	6
GW112156	Bore	Equipped	317748	6256471	4.3	4.3
GW112157	Bore	Equipped	317493	6256568	6.9	6.9
GW112158	Bore	Equipped	317677	6256557	5.3	5.3
GW112159	Bore	Equipped	317491	6256591	3.5	3.5
GW112160	Bore	Equipped	317746	6256668	4.95	4.95
GW112161	Bore	Equipped	317593	6256718	3.5	3.5
GW112162	Bore	Equipped	317518	6256757	5.5	5.5
GW112163	Bore	Equipped	317577	6256402	6.5	6.5
GW112205	Bore	Equipped	318577	6255531	8	8
GW112206	Bore	Equipped	318585	6255566	3	3
GW112207	Bore	Equipped	318593	6255628	6.6	6.6
GW112208	Bore	Equipped	318607	6255678	6.5	6.5
GW112209	Bore	Equipped	318585	6255780	9	9
GW112210	Bore	Equipped	318624	6255835	9.5	9.5
GW112211	Bore	Equipped	318590	6255929	9.5	9.5
GW112212	Bore	Equipped	318526	6255809	6.5	6.5
GW112213	Bore	Equipped	318491	6255648	5	5
GW112214	Bore	Equipped	318429	6255955	7.5	7.5
GW112215	Bore	Equipped	318384	6255489	8	8
GW112216	Bore	Equipped	318458	6255419	8	8
GW112232	Bore	Equipped	317922	6255865	10.5	10.5
GW112233	Bore	Equipped	317908	6255838	5.5	5.5
GW112234	Bore	Equipped	317862	6255795	12	12
GW112235	Bore	Equipped	317875	6255802	5	5
GW112236	Bore	Equipped	317930	6255808	10.2	10.2
GW112237	Bore	Equipped	317921	6255794	5	5
GW112238	Bore	Equipped	317921	6255809	10.4	10.4
GW112239	Bore	Equipped	317858	6255822	11.4	11.4
GW112240	Bore	Equipped	317855	6255821	5.5	5.5
GW112241	Bore	Equipped	317861	6255771	5.5	5.5
GW112242	Bore	Equipped	317872	6255925	9.5	9.5
GW112243	Bore	Equipped	317857	6255883	4.3	4.3
GW112244	Bore	Equipped	317866	6255834	8	8
GW112245	Bore	Equipped	317876	6255804	7.2	7.2
GW112246	Bore	Equipped	317859	6255801	10.2	10.2
GW112313	Bore	Equipped	318435	6255342	3.5	3.5
GW112314	Bore	Equipped	318266	6254862	4.5	4.5
GW112315	Bore	Equipped	318751	6255025	4.4	4.5
GW112316	Bore	Equipped	318976	6255101	4.6	4.6
GW112317	Bore	Equipped	319125	6255113	4.6	4.6
GW112318	Bore	Equipped	319192	6255233	4.15	4.15
GW112319	Bore	Equipped	319213	6255358	4	4
GW112320	Bore	Equipped	319230	6255431	6	6
GW112321	Bore	Equipped	318945	6255400	3	3
GW112322	Bore	Equipped	318961	6255259	7	7
GW112323	Bore	Equipped	319146	6255164	4	4
GW112324	Bore	Equipped	319146	6255196	1.3	1.3
GW112325	Bore	Equipped	318784	6255071	1.8	1.8
GW112326	Bore	Equipped	318771	6255049	1.5	1.5
GW112327	Bore	Equipped	319172	6255194	4	4
GW112328	Bore	Equipped	319192	6255227	4	4
GW112329	Bore	Equipped	319140	6255116	1.5	1.5
GW112330	Bore	Equipped	318851	6255060	1.5	1.5
GW112331	Bore	Equipped	318779	6255078	1.5	1.5
GW112332	Bore	Equipped	318800	6255082	4	4
GW112492	Bore	Equipped	313563	6254276	11.5	11.5
GW112493	Bore	Equipped	313574	6254281	9	9

GW112494	Bore	Equipped	313549	6254271	9	9
GW112800	Bore	Equipped	317070	6253605	6	6
GW112801	Bore	Equipped	316942	6253328	6.5	6.5
GW112802	Bore	Equipped	316958	6253514	5	5
GW112803	Bore	Equipped	317405	6253207	6	6
GW112804	Bore	Equipped	317245	6253365	6	6
GW112805	Bore	Equipped	317245	6253378	6	6
GW112812	Bore	Equipped	316134	6253128	10.5	10.5
GW112813	Bore	Equipped	316132	6253117	10.35	10.35
GW112814	Bore	Equipped	316119	6253107	13	13
GW112815	Bore	Equipped	316108	6253103	13	13
GW112816	Bore	Equipped	316120	6253103	6	6
GW112817	Bore	Equipped	316098	6253102	6.5	6.5
GW112818	Bore	Equipped	316130	6253125	6.5	6.5
GW112874	Bore	Equipped	319038	6255898	5	5
GW112875	Bore	Equipped	319065	6255881	5	5
GW112876	Bore	Equipped	319098	6255873	5	5
GW112877	Bore	Equipped	319112	6255890	5	5
GW112878	Bore	Equipped	319138	6255897	5	5
GW113025	Bore	Equipped	318829	6255770	4	4
GW113026	Bore	Equipped	318858	6255740	4	4
GW113027	Bore	Equipped	318855	6255801	4	4
GW113028	Bore	Equipped	318803	6255916	4	4
GW113029	Bore	Equipped	318908	6255885	4	4
GW113030	Bore	Equipped	318907	6255926	4	4
GW113031	Bore	Equipped	318805	6255982	4	4
GW113032	Bore	Equipped	318915	6255789	4	4
GW113033	Bore	Equipped	318806	6255860	4	4
GW113034	Bore	Equipped	318761	6255918	4	4
GW113350	Bore	Equipped	318135	6254502	7.5	7.5
GW113351	Bore	Equipped	318139	6254458	11.6	11.6
GW113352	Bore	Equipped	318101	6254394	7	7
GW113353	Bore	Equipped	318064	6254344	11	11
GW113354	Bore	Equipped	318001	6254224	7.8	7.8
GW113355	Bore	Equipped	317942	6254247	10	10
GW113397	Bore	Equipped	317799	6255937	4.7	4.7
GW113398	Bore	Equipped	317850	6255933	10.2	10.2
GW113399	Bore	Equipped	317906	6255928	5.3	5.3
GW113400	Bore	Equipped	317958	6255923	10.5	10.5
GW113401	Bore	Equipped	317957	6255871	6.4	6.4
GW113402	Bore	Equipped	317949	6255816	6.2	6.2
GW113403	Bore	Equipped	317943	6255771	6.2	6.2
GW113404	Bore	Equipped	317938	6255727	10.2	10.2
GW113405	Bore	Equipped	317732	6254343	23	23
GW113406	Bore	Equipped	317794	6254381	24.5	24.5
GW113407	Bore	Equipped	317886	6254447	6	6
GW113408	Bore	Equipped	317919	6254471	5	5
GW113409	Bore	Equipped	317945	6254491	5	5
GW113410	Bore	Equipped	317971	6254512	4.8	4.8
GW113411	Bore	Equipped	317996	6254526	5	5
GW113412	Bore	Equipped	318023	6254547	8.5	8.5
GW113429	Bore	Equipped	312098	6256490	7.7	7.7
GW113430	Bore	Equipped	312097	6256479	8	8
GW113431	Bore	Equipped	312114	6256454	14	14
GW113432	Bore	Equipped	312131	6256462	7	7
GW113433	Bore	Equipped	312096	6256461	6	6
GW113434	Bore	Equipped	312139	6256468	5	5
GW113435	Bore	Equipped	312142	6256476	4	4
GW113436	Bore	Equipped	312131	6256449	4	4
GW114345	Bore	Equipped	315706	6254064	6	6
GW114346	Bore	Equipped	315711	6254074	6	6
GW114347	Bore	Equipped	315716	6254074	5.9	5.9
GW114348	Bore	Equipped	315727	6254050	6.8	6.8
GW114359	Bore	Equipped	318868	6256241	1.6	1.6
GW114360	Bore	Equipped	318868	6256241	1.9	1.9
GW114361	Bore	Equipped	318878	6256233	1.6	1.6
GW114362	Bore	Equipped	318878	6256233	1.9	1.9
GW114363	Bore	Equipped	318887	6256230	1.6	1.6
GW114364	Bore	Equipped	318886	6256230	1.9	1.9
GW114365	Bore	Equipped	318893	6256228	1.55	1.55
GW114366	Bore	Equipped	318893	6256228	1.9	1.9
GW114367	Bore	Equipped	318901	6256226	1.55	1.55
GW114368	Bore	Equipped	318901	6256226	1.9	1.9
GW114369	Bore	Equipped	318911	6256221	1.55	1.55
GW114370	Bore	Equipped	318911	6256221	1.9	1.9
GW114371	Bore	Equipped	318918	6256216	1.6	1.6
GW114372	Bore	Equipped	318918	6256217	1.9	1.9

GW114373	Bore	Equipped	318926	6256214	1.55	1.55
GW114374	Bore	Equipped	318926	6256214	1.9	1.9
GW114375	Bore	Equipped	318933	6256210	1.55	1.55
GW114376	Bore	Equipped	318887	6256102	1.9	1.9
GW114377	Bore	Equipped	318941	6256206	1.65	1.65
GW114378	Bore	Equipped	318887	6256102	1.9	1.9
GW114534	Bore	Equipped	313862	6256107	6.9	6.9
GW114534	Bore	Equipped	313862	6256107	6.9	6.9
GW114535	Bore	Equipped	313885	6256113	7	7
GW114536	Bore	Equipped	313876	6256117	6.5	6.5
GW114675	Bore	Equipped	315861	6254887	7.5	7.5
GW114676	Bore	Equipped	315858	6254896	7.5	7.5
GW114677	Bore	Equipped	315865	6254898	7.5	7.5
GW114678	Bore	Equipped	315875	6254894	8.5	8.5
GW114679	Bore	Equipped	315874	6254890	7.5	7.5
GW114680	Bore	Equipped	315848	6254877	7.5	7.5
GW114681	Bore	Equipped	315855	6254868	7.5	7.5
GW114682	Bore	Equipped	315856	6254865	8	8
GW114683	Bore	Equipped	315857	6254862	3	3
GW114747	Bore	Equipped	313857	6258516	14	10
GW114748	Bore	Equipped	313940	6258579	14	14.5
GW114751	Bore	Equipped	314551	6259227	9	9
GW114752	Bore	Equipped	314551	6259212	12	12
GW114753	Bore	Equipped	314540	6259205	9	12
GW114754	Bore	Equipped	314534	6259210	9	12
GW114764	Bore	Equipped	317891	6257151	5	5
GW114765	Bore	Equipped	317865	6257154	6	6
GW114766	Bore	Equipped	317847	6257166	4.5	4.5
GW114767	Bore	Equipped	317856	6257156	4	4
GW114768	Bore	Equipped	317857	6257166	5.2	5.2
GW114769	Bore	Equipped	317887	6257140	6	6
GW114770	Bore	Equipped	317863	6257177	5.2	5.2
GW114771	Bore	Equipped	317877	6257163	5.7	5.7
GW114961	Bore	Equipped	314915	6253986	5.5	5.5
GW114962	Bore	Equipped	314929	6253981	6	6
GW114966	Bore	Equipped	314875	6253921	8.8	8.8
GW114967	Bore	Equipped	314977	6253969	5.3	5.3
GW114968	Bore	Equipped	314899	6253950	5.8	5.8
GW115123	Bore	Equipped	317804	6256515	9	9
GW115124	Bore	Equipped	317822	6256334	9.5	9.5
GW115319	Bore	Equipped	316900	6254221	5.5	
GW115320	Bore	Equipped	316887	6254227	4.5	
GW115321	Bore	Equipped	316889	6254242	40.5	
GW115476	Bore	Equipped	318874	6256143	3	
GW115477	Bore	Equipped	318918	6256095	3	
GW115478	Bore	Equipped	318918	6256095	3	
GW115479	Bore	Equipped	318840	6256052	3	
GW072398	Bore	Abandoned	312373	6258574	58	58
GW115475			318921	6256165		

APPENDIX D – HYDROGRAPHS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Water Level (manual measurement)
Water Level (Level logger)
Water Level (mAHD)
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4.50
4.00
3.50
3.00
2.50
2.00
18/06/2020 0:00
26/09/2020 0:00
04/01/2021 0:00
14/04/2021 0:00
23/07/2021 0:00
31/10/2021 0:00
08/02/2022 0:00
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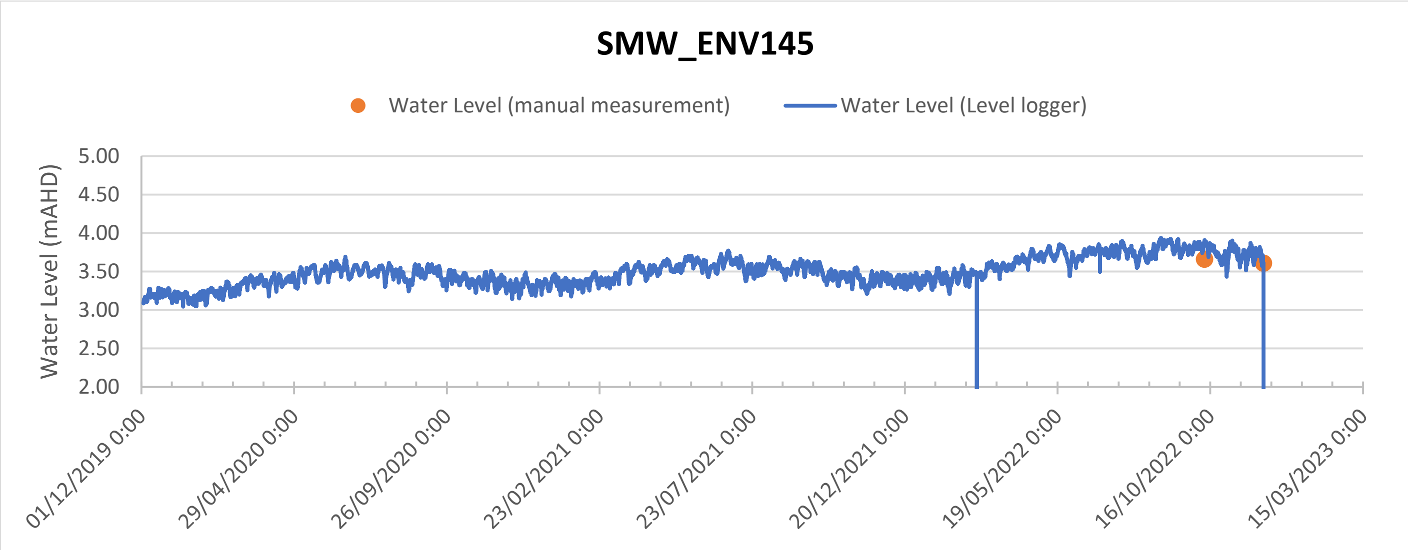
15/03/2023 0:00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Water Level (mAHD)
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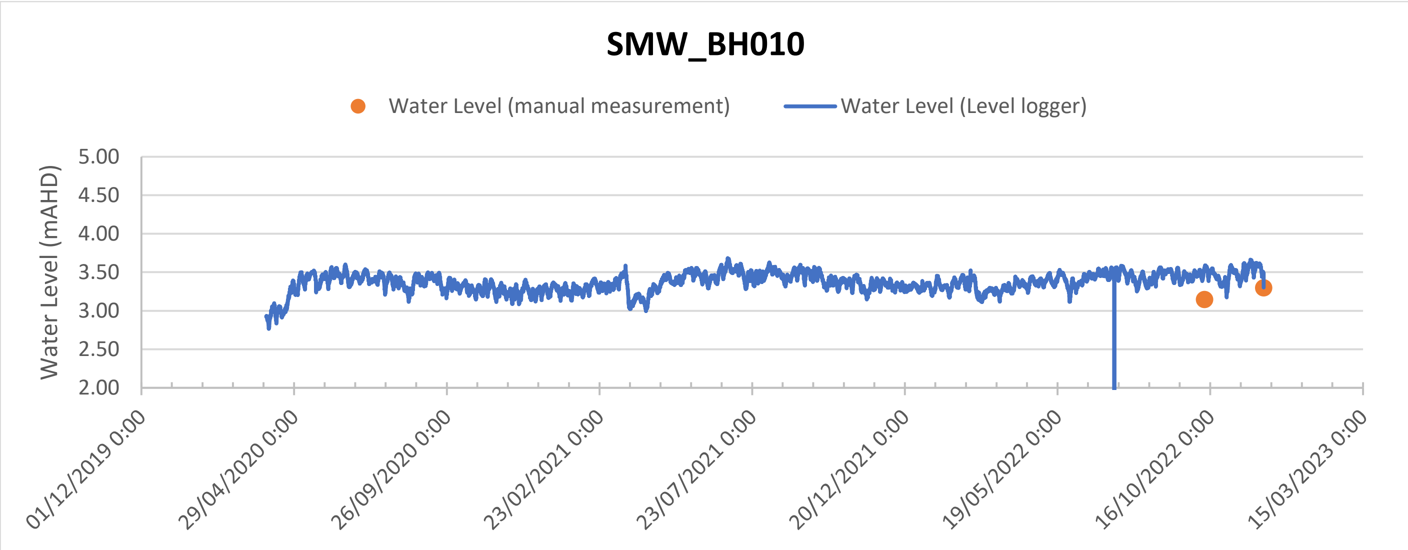
15/03/2023 0:00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Water Level (Level logger)
Water Level (mAHD)
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4.00
3.50
3.00
2.50
2.00
01/12/2019 0:00
29/04/2020 0:00
26/09/2020 0:00
23/02/2021 0:00
23/07/2021 0:00
20/12/2021 0:00
19/05/2022 0:00
16/10/2022 0:00
15/03/2023 0:00

APPENDIX E – FIELD DATA SHEETS

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SW WTP GWMP	Well No: SMW_WTP_BH18	
Job No: SC210108.01		Date: 13/7/22	
Recorded By: Murti		Time: ~~10:28~~ 12:05	
Weather:			

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☑ PVC ☐ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	.695	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):		Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at ______ L

	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
Minimum Purge Volume Required	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)² + 0.3 x (πr(annulus)² - πr(casing)²)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
2:00	0.5	5.63	28799	92.3	0.76	9.5				~~20.5~~ 20.5
2:05	1	5.78	28715	53.6	0.48	5.9				20.5
2:09	1.2	5.82	28695	43.6	0.43	5.2				19.7
2:12	1.5	5.83	28620	39.8	0.32	4.0				20.2
2:15	1.9	5.85	28535	35.1	0.06	0.7				20
2:18	2.2	5.86	28446	32.9	–	-0.1				20.1
2:23	2.6	5.86	28556	30.2	–	-1.9				20.3
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour):
Discharge water disposal: ☐ Drums ☐ Other: good condition, clear water, no odour, water level ↓

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SMWWTPGWMP	Well No: SMW-BH010	
Job No:	SC210108.01	Date: 13/7/22	
Recorded By:	Murti	Time: 4:00	
Weather:			

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☐ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☑ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.285	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):		Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
3:33	0.2	6.07	26796	72.4	0.36	4.5				18.8
3:37	0.5	6.13	26888	63.1	0.11	1.3				18.9
3:40	1	6.18	26912	57.6	0.01	0.1				18.2
3:43	1.2	6.20	26888	56.4	0.01	0.2				18.1
3:46	1.5	6.22	26842	55.3	–	-0.5				18.1
3:50	1.8	6.22	26835	54.6	0.01	0.1				18.1
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Bolt fell in well.

Discharge water disposal: ☐ Drums ☐ Other: Good condition, clear water, no odour, deep well.

WELL SAMPLING

SAMPLING METHOD

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

☑ Same as purge method

☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

ENVIRONMENTAL SMWWTP_GWMP

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	~~SWM ENV042~~	Well No: SMW-ENV042	
Job No:	SC210108.01	Date: 13/7/22	
Recorded By:	Murti	Time:	
Weather:			

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	1.71	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):		Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(\text{casing})^2 + 0.3 \times (\pi r(\text{annulus})^2 - \pi r(\text{casing})^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_______	_______	°C
~~4:15~~	~~0.2~~	~~5.93~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~				~~[illegible]~~
4:15	0.2	5.93	24383	31.5	0.26	3.0				18.5
4:18	0.6	5.83	24384	40.7	0.16	1.8				18.3
4:21	1	5.78	24378	43.4	0.15	1.5				18.5
4:23	1.3	5.76	24313	45	0.15	1.7				18.5
4:25	1.6	5.74	24274	45.4	0.13	1.6				18.6
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour):
Discharge water disposal: ☐ Drums ☐ Other: Good condition, clear yellow water, no odour, logger found.

WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name: SMW_WTP_GWMP		Well No: SMW_ENV045	
Job No:	SC210108.01	Date: 14/07/22	
Recorded By:	SR & JX & MP	Time: ~~14/07/22~~ 09:15	
Weather:	Rainy.		

CONSTRUCTION INFORMATION

Well Type:	☐ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☐ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☑ PVC ☐ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	2.038	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):		Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at _______ L

	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
Minimum Purge Volume Required	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)² + 0.3 x (πr(annulus)² - πr(casing)²)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_____	_____	°C
9:18	1	7.19	2882	86.0	4.72	51.9				19.5
9:21	1.3	7.11	3093	81.2	3.88	42.5				19
9:26	1.8	7.02	3180	72.4	2.77	30.3				18.9
9:30	2	6.92	3779	71.5	2.23	24.7				19
9:33	2.2	6.83	4300	70.3	1.91	17.6				18.9
9:38	2.5	6.78	4776	69.3	1.28	14.1				18.8
9:40	2.7	6.76	4975	67.0	1.09	11.9				18.9
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): DRAWDOWN OCCURRING AT LOWEST FLOW. ~ 3cm/min

Discharge water disposal: ☐ Drums ☐ Other: Good condition, Yellow, no odour, logger

WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW_WTP_BH13	
Job No:	SC210108.01	Date: 14/7/22	
Recorded By:	Murti	Time: 11:00	
Weather:	Rainy -> Cloudy (no rain while sampling)		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	0.581	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	7.3	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at_______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)² + 0.3 x (πr(annulus)² - πr(casing)²)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
11:00	0.5	7.12	1355	71.9	0.26	2.7				17.2
11:03	0.8	7.06	1341	77.3	0.20	2.1				17.1
11:07	1L	7.02	1333	80.0	0.18	1.9				17.1
11:10	1.32L	7.00	1332	80.4	0.18	1.8				16.9
11:13	1.5L	6.99	1325	80.8	0.18	1.8				16.9
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

water clear yellow colour

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Good condition / yellow colour / clear, / no odour.

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW_WTRBH25	
Job No:	SC210108.01	Date: 14/7/22	
Recorded By:	Murti	Time: 13:00	
Weather:	& windy		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	2.413	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):		Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
1:11	0.5	5.79	31065	19.3	0.21	2.6				19.9
1:15	1	5.79	31004	16.7	0.17	2.1				19.9
1:18	1.5	5.80	30874	14.1	0.15	1.8				20.0
1:21	~~1~~ 2	5.81	30731	12.4	0.13	1.6				20.
1:25	2.5	5.82	30603	10.7	0.13	1.6				20
1:28	3	5.83	30526	9.4	0.13	1.6				20
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour):

Discharge water disposal: ☐ Drums ☐ Other: Good condition, logger, no odour, yellowish.

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GMWP	Well No:	~~SWM~~ SMW – BH25_S	
Job No:	SC210108.01	Date:	14/07/22	
Recorded By:	JX & MP	Time:	14:00 – 14:30	
Weather:	Cloudy , windy			

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	2.65 m	☐ Pump Type: ☐ Submersible ☐ Bladder ☐ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):	5.82 m.	Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)² + 0.3 x (πr(annulus)² - πr(casing)²)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_______	_______	°C
14:00	0.5	7.07	3519	-75.2	0.15	1.6				19.6
14:03	1	7.09	3519	-85.5	0.12	1.4				19.6
14:07	1.5	7.11	3536	-95.1	0.11	1.2				19.6
14:10	1.8	7.13	3541	-102.9	0.10	1.1				19.7
14:13	2.1	7.14	3540	-107.6	0.11	1.2				19.6
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): GOOD / YELLOW-BROWN / NO ODOUR / NO LOGGER

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

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STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW-ENVO39	
Job No:	QC210108.01	Date: 14/7/22	
Recorded By:	Murti &JX.	Time: ~~15:30~~ 15:30-1600	
Weather:	Sunny		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	4.185	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):		Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)² + 0.3 x (πr(annulus)² - πr(casing)²)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_______	_______	°C
~~15:35~~	~~0.5~~									
15:35	0.5.	6.25	31708	52.4	0.16	1.9				20.0
15:38	1.2	6.31	31550	50.4	0.14	1.7				20.0
15:41	2	6.28	31302	48.0	0.13	1.5				20.0
15:46	2.5	6.27	31031	45.8	0.12	1.4				20.0
15:49	3	6.27	30803	44.8	0.12	1.5				19.9
15:53	3.5-4L	6.27	30759	43.7	0.12	1.5				19.9
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): long grass, on corner of road (danger); No logger, No odour, brown color → clear.
Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

SC210108.01

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP.	Well No: SMW_WTP_BH030	
Job No:	~~SMW_WTP_BH030~~	Date: 15/07/22	
Recorded By:	JX & MP	Time: 09:30	
Weather:	Sunny.		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.10 m	☐ Pump Type: ☐ Submersible ☐ Bladder ☐ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	10.3 m	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(\text{casing})^2 + 0.3 \times (\pi r(\text{annulus})^2 - \pi r(\text{casing})^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
9:49	0.5	5.86	31092	1.37	0.36	4.3				19.0
9:53	1	6.00	31056	103.8	0.15	1.9				19.0
9:56	1.3	6.08	31018	81.3	0.11	1.3				18.5
9:59	1.5	6.11	30890	78.9	0.09	1.1				18.8
10:02	1.8	6.14	30844	59.7	0.09	1.1				18.6
10:05	2.0	6.15	30862	55.1	0.09	1.1				18.5
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): logger inside.. Water visible.
Discharge water disposal: ☐ Drums ☐ Other: GOOD, YELLOW-BROWN COLOR → clear, NO ODOR

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW_WTP_BH30_S	
Job No:	SC210108.01	Date: 15/09/22	
Recorded By:	JX & MP	Time: 11:00	
Weather:	Sunny		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.5 m	☐ Pump Type: ☐ Submersible ☐ Bladder ☐ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	5.35 m	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at ______ L

	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
Minimum Purge Volume Required	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)² + 0.3 x (πr(annulus)² - πr(casing)²)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
10:47	0.5	6.09	34504	102.2	0.21	2.8				17.9
10:51	1	6.02	34517	105.2	0.16	1.9				17.8
10:55	1.5	5.99	34500	106.6	0.13	1.5				17.9
10:58	1.8	5.98	34426	107.2	0.11	1.3				18.0
11:03	2.5	5.96	34413	106.1	0.10	1.3				18.1
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): water visible, no logger; clear, no odor

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No:	SMW-BH057-S	
Job No:	SC210108.01	Date:	15/07/22	
Recorded By:	JX & MP	Time:	12:30	
Weather:	Sunny, inside W.S. car park			

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.58 m	☐ Pump Type: ☐ Submersible ☐ Bladder ☐ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	4.53 m	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
12:11	0.2	6.86	1674	-0.6	0.18	2.0				17.9
12:15	0.5	6.77	1645	-5.2	0.11	1.1				18.1
12:17	0.7	6.65	1667	-10.4	0.07	0.7				18.4
12:21	1.5	6.59	1661	-15.2	0.05	0.5				18.4
12:28	2	6.55	1665	-20.7	0.06	0.6				18.0
12:31	2.2	6.54	1679	-21.1	0.06	0.6				18.2
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Water non-vis ; logger inside, GOOD; Clear ; no odour.

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate ALS	Rinsate	Comments
Sample ID & QC Samples	BH057S	QA2	QA2-S	R1	
Analysis/ Bottles	10	10	11	10	

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No:	SMW_BH057	
Job No:	SC210108.01	Date:	15.07.22	
Recorded By:	JX . MP	Time:	1430	
Weather:	Sunny			

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.60m	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	27.61 m	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_______	_______	°C
2:25	0.2	6.66	6686	72.3	0.60	6.8				20.1
2:28	0.4	6.69	6996	50.6	0.25	2.8				20
2:30	0.6	6.69	7243	42.0	0.17	2.0				20.2
2:33	1	6.69	7566	35.1	0.13	1.5				20.3
2:36	1.2	6.70	7821	29.9	0.10	1.2				20.3
2:39	1.5	6.69	8166	26.9	0.10	1.1				20.5
2:42	1.8	6.69	8293	25.9	0.09	1.1				
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Water visible, logger inside. water level drawing down - Good condition, clear water.

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples					
Analysis/ Bottles					

ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW_ENV010	
Job No:	SC210108.01	Date: 18/7/22	
Recorded By:	Musti, Joy	Time: ~~9:30~~ 10:00	
Weather:	sunny/windy		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.52	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	7.13	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - $[\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	____	____	°C
10:02	0.2	6.28	1422	3.5	0.45	5.5				22.5
10:05	0.5	6.15	1421	-6.1	0.35	4.2				22.6
10:10	1	6.13	1425	-9.5	0.15	1.9				22.6
10.15	1.5	6.12	1424	-14.3	0.11	1.3				22.7
10:18	1.8	6.12	1426	-16.5	0.11	1.3				22.5
10:21	2.2	6.11	1429	-17.5	0.10	1.2				22.5
10:25	2.5	6.11	1432	-18.3	0.11	1.2				22.6
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Good condition, No logger, No odour, ~~yellowish color~~ yellowish color, water not visible, water drawing down 7cm/min.
Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples	SMW-ENV010			R2	
Analysis/ Bottles	10			10	

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SC210108.01	Well No: SMW-ENV009	
Job No:	GWMP	Date: 18.07.22	
Recorded By:	JX.MP	Time: 12:00	
Weather:	~~Sunny~~, Windy, Cloudy		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☑ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	1.65m	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):	7.22m	Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(\text{casing})^2 + 0.3 \times (\pi r(\text{annulus})^2 - \pi r(\text{casing})^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_______	_______	°C
11:52	0.2	6.88	1729	1.4	0.23	2.7				21.9
11:55	0.5	6.87	1712	~~-5.~~ -48.4	0.08	0.9				21.7
11:58	0.8	6.90	1715	-61.0	0.07	0.7				21.7
12:02	1.2	6.91	1701	-68.5	0.05	0.6				21.8
12:08	1.8	6.94	1703	-81.6	0.05	0.6				21.7
12:13	2.4	6.95	1709	-86.5	0.05	0.6				21.4
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Good, water in the well visible, ~~water level electricity~~; logger inside, No odour, Yellowish color

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples	SMWENV009				
Analysis/ Bottles	10				

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW_ENV300_S	
Job No:	SC210108.01	Date: 19.07.22	
Recorded By:	JX & MP	Time: 10:00	
Weather:	Sunny.		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	0.99 m	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	1.815 m	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
9:52	0.2	4.75	344.5	250.3	3.76	38.4				15.8
9:56	0.5	4.61	324.5	252.2	3.56	35.6				15.5
10:00	0.8	4.54	308.0	254.7	3.49	35.8				15.6
10:02	1	4.49	309.0	255.9	3.52	35.7				15.7
10:05	1.2	4.41	332.6	260.1	2.50	25.8				15.8
10:08	1.4	4.38	344.8	261.0	1.86	19.0				16.0
10:12	1.6	4.39	342.9	259.9	3.73	36.9				16.2
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): GOOD, ~~[illegible]~~ sallow, No odour, no logger, water drawingdown, clear water, water dropping very slow. recharge.
Discharge water disposal: ☐ Drums ☐ Other:

took as many water as we could in the well. ~~[illegible]~~ NOT LOW FLOW

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples	SMW_ENV300_S			R3	
Analysis/ Bottles	10			10	

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No:	SMW-ENV295
Job No:	SC210108.01	Date:	19.07.
Recorded By:	JX MP	Time:	14:00
Weather:	partially rain / Cloudy.		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	1.29 m	☐ Pump Type: ☐ Submersible ☐ Bladder ☐ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	6.44m	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at_______ L

Minimum Purge Volume Required	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - $[\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_______	_______	°C
13:39	0.2	4.63	476.9	232.7	0.51	5.7				19.6
13:43	~~0.5~~	4.59	477.3	230.7	0.26	2.8				19.7
	0.5									
13:46	0.8	4.61	477.2	228.8	0.21	2.3				19.8
13:49	1.0	4.62	477.2	226.9	0.20	2.1				19.9
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): GOOD. NO LOGGER, WATER VISIBLE CLEAR, NO ODOUR, NO BOLTS,
Discharge water disposal: ☑ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples	SMW-ENV295				
Analysis/ Bottles	10				

No. 20

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No:	SMW_ENV083
Job No:	SC210108.01	Date:	22.07.22
Recorded By:	JXMP	Time:	8:30
Weather:	Sunny, Rainy, Rainbow		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other	
Water Level Depth (WL in m BTOC):	0.42	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):	5.95	Depth (m BTOC):	
Height of Standing Water Column (TD-WL, in m):		Purged dry?	☐ No ☐ Yes, at _______ L

	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
Minimum Purge Volume Required	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [πr(casing)^2 + 0.3 x (πr(annulus)^2 - πr(casing)^2)
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	_____	_____	°C
8:07	0.5	5.23	16607	166.9	0.65	7.3				17.9
8:12	1	5.29	14001	150.1	0.39	4.3				18.1
8:17	1.5	5.32	12143	132.5	0.30	3.3				18.2
8:22	2	5.27	11740	131.3	0.29	3.1				18.3
8:26	2.5	5.24	11642	132.8	0.26	3.0				18.4
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): GOOD, NO LOGGER, WATER VISIBLE, Tube found inside
Discharge water disposal: ☐ Drums ☐ Other: Brown-Red color (Particles suspended), No ODOUR

WELL SAMPLING Rain water found in BH.

SAMPLING METHOD
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
☐ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples	SMW-ENV083				
Analysis/ Bottles	10				

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW-~~0~~ENV089	
Job No:	SC210108·01	Date: 22/7/22	
Recorded By:	Murti & Joy	Time: 9:30	
Weather:	Cloudy		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	3.30	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	6.03	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at _______ L

	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
Minimum Purge Volume Required	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	____	____	°C
9:21	0.5	6.29	7015	-14.9	0.19	2.1				18.7
9:26	1	6.41	6059	-25.9	0.42	4.0				18.8
9:30	1.5	6.47	5210	-29.3	3.49	36.8				18.5
9:33	1.8	6.55	1398	-26.7	5.45	59.6				18.0
9:36	2.0	6.61	3956	-24.9	6.39	68.0				17.8
9:40	2.3	6.63	3777	-24.4	6.70	71.4				17.7
9:42	2.5	6.68	3496	-23.8	7.38	77.1				17.6
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): No odour, No logger, Black gatic cover, good condition, stock piling around, tube present, vegetation on west, Black substances at end of tube, Yellowish color water, water drawn down
Discharge water disposal: ☐ Drums ☐ Other

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION: QA/QC

	Primary	Duplicate	~~Triplicate~~	Rinsate	Comments
Sample ID & QC Samples	SMW-ENV089		QA3/QA3-S	R4	
Analysis/ Bottles	10			10	

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW_ENV088	
Job No:	SC210108.01	Date: 22/7/22	
Recorded By:	Murti & Joy	Time: 12:30	
Weather:	Sunny/cloudy		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:		Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD
LNAPL Level Depth (LL in m BTOC):		☐ Bailer Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other
Water Level Depth (WL in m BTOC):	2.98	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**
Total Depth of Well (TD in m BTOC):	7.95	Depth (m BTOC):
Height of Standing Water Column (TD-WL, in m):		Purged dry? ☐ No ☐ Yes, at ______ L

	Well Diameter (mm)	Well Annulus (mm)	Height Standing Water Column/ Length (m)	Multiply Length by (L/m)[1]	= Total Volume (L)	Multiply Total Volume by 3[2]
Minimum Purge Volume Required	50	100		3.5		
	50	150		6.5		

[1] Volume per 1m: casing volume + filter pack volume (effective porosity assumed at 0.3) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[2] At a minimum, three well volumes should be purged. If possible, up to 5 well volumes is recommended to achieve an adequate purge
Reference: Victorian EPA Groundwater Sampling Guidelines April 2000, Publication 669 - Section 4.5

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	-	µS/cm	mV	ppm	% Sat	NTU	____	____	°C
12:05	0.2	5.82	12341	67.1	0.45	5.0				19.2
12:08	0.5	5.91	10071	29.5	0.24	2.7				19.1
12:10	0.7	5.95	8834	17.0	0.23	2.6				19.1
12:13	1	5.95	7098	5.8	0.24	2.6				19.1
12:16	1.2	5.99	6384	1.7	0.23	2.6				19.1
12:18	1.5	6.00	5485	-2.3	0.25	2.3				19.1
12:20	1.7	6.00	5362	-2.7	0.30	3.0				19.1
Acceptable Variation		± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N										

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504)

Observations during purging (well condition, turbidity, colour, odour): Good condition, No bolts on cover, looks historic, behind warehouse, No logger, tube found, black soil in gatic cover, yellowish color, near fence.
Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING

SAMPLING METHOD ~~good condition, No bo~~ ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	Triplicate	Rinsate	Comments
Sample ID & QC Samples	SMW_ENV088				
Analysis/ Bottles	10				

EPIC ENVIRONMENTAL

LOW FLOW GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SMW WTP - C21	Well No:	ENV149
Job No:	SC210108.01	Date:	12/07/2022
Recorded By:	TS	Time:	8:05am
Weather:	Clear		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	0.07 mbgl
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	9m
Well Head Condition:	good	Screen Interval – Bottom (m BTOC)	6m

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):		☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
Water Level Depth (WL in m BTOC):	1.29m	Initial Pump Rate (L/min)	0.2L/min
DNAPL Level Depth (DL in m BTOC):		**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):	9.38	Depth (m BTOC):	8.38m
Height of Standing Water Column (TD-WL, in m):	8.09m	Purged dry?	☑ No ☐ Yes, at ______ L

In accordance with USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504), draw down to be limited to <0.1m during sampling. Typically, flow rates on the order of 0.1 - 0.5 L/min are used, however this is dependent on site-specific hydrogeology and flow rates up to 1 L/min may be acceptable where draw down is able to be maintained at <0.1m.

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	Pump Rate	SWL	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	L/min	m BTOC	-	µS/cm	mV	ppm	% Sat	NTU	______	______	°C
0	0	0.2	1.40	5.77	21303	35.5	0.89	10.8		15.3	16250	17.8
2	0.2	0.2	1.50	5.82	22350	22.5	0.22	2.7		15.57	16645	19.6
4	0.4	0.2	1.62	5.84	22536	17.9	0.12	1.4		15.56	16640	18.8
6	0.6	0.2	1.73	5.95	22565	15.6	0.13	1.4		15.61	16591	18.9
8	0.8	0.2	1.83	5.86	22549	14.1	0.11	1.2		15.58	16555	19.0
10	1.0	0.2	1.96	5.87	22515	12.2	0.08	0.9		15.53	16510	19.1
12	1.2	0.15	2.02	5.87	22329	11.1	0.05	0.8		15.53	16510	18.7
14	1.4	0.15	2.06	5.87	22284	11.2	0.05	0.7		15.49	16451	18.7
Acceptable Variation			<0.1m	± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N			Y	Y	Y	Y	N	N				

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504).

Observations during purging (well condition, turbidity, colour, odour):

Clear, no odour

Discharge water disposal: ☐ Drums ☐ Other

WELL SAMPLING

SAMPLING METHOD ☐ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate Blank	Comments
	SMW_ENV149				
Analysis/ Bottles					

LOW FLOW GROUNDWATER SAMPLING FIELD SHEET

Job Name:	WTP Westmead	Well No:	ENV-294
Job No:	SC210108.01	Date:	10/08/22.
Recorded By:	MSF/NC	Time:	08:26
Weather:			

CONSTRUCTION INFORMATION

Well Type:	X Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	0.1 mbgl.
Well Material:	X PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	2.5
Well Head Condition:	Good, flooded	Screen Interval – Bottom (m BTOC)	5.5

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):	—	☐ Pump Type: ☐ Submersible ☐ Bladder X Peristaltic ☐ Other	
Water Level Depth (WL in m BTOC):	3.306	Initial Pump Rate (L/min)	
DNAPL Level Depth (DL in m BTOC):	—	PUMP INTAKE SETTING	
Total Depth of Well (TD in m BTOC):	6.470	Depth (m BTOC): ~4.5	
Height of Standing Water Column (TD-WL, in m):	3.164	Purged dry?	X No ☐ Yes, at ______ L

In accordance with USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504), draw down to be limited to <0.1m during sampling. Typically, flow rates on the order of 0.1 - 0.5 L/min are used, however this is dependent on site-specific hydrogeology and flow rates up to 1 L/min may be acceptable where draw down is able to be maintained at <0.1m.

FIELD PARAMETER MEASUREMENTS

every 3 min

Time	Volume Purged	Pump Rate	SWL	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	L/min	m BTOC	-	µS/cm	mV	ppm	% Sat	NTU	____	____	°C
8:48	1.0	0.17	3.425	5.10	564	186.2	0.51			0.30		20.1
8:51	1.5	0.17	3.490	4.93	540	194.1	0.07			0.29		19.9
8:54	2.0	0.17	3.538	4.88	526	197.7	0.02			0.29		19.5
8:57	2.4	0.13	3.570	4.81	521	201.9	0.1			0.29		19.0
9:00	2.7	0.1	3.605	4.74	516	205.6	0.14			0.28		19.0
9:03	3.0	0.1	3.678	4.74	519	206.6	0.18			0.28		19.2
9:06	3.3	0.1	3.686	4.77	521	207.8	0.19			0.28		19.3
9:09	3.6	0.1	3.708	4.76	521	211.2	0.19			0.28		19.3
9:12	3.9	0.1	3.731	4.75	523	214.7	0.20			0.29		19.3
Acceptable Variation			<0.1m	± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N			Y	Y	Y	Y	Y					

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504).

Observations during purging (well condition, turbidity, colour, odour): Soft bottom. ~~Unable~~ Unable to stabilise SWL → Pump on lowest setting. Grey, cloudy, no odour/sheen

Discharge water disposal: ☐ Drums X Other

WELL SAMPLING

SAMPLING METHOD

☐ Bailer – Type: X PVC ☐ SS ☐ Teflon ☐ Other

X Same as purge method

☐ Pump – Type: ☐ Submersible ☐ Bladder X Other Peri

SAMPLE DISTRIBUTION:

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate Blank	Comments
	ENV-294	WM_QC01	WM_QC02	WM-	
Analysis/ Bottles					

294 299 5m & 300 ...

epic ENVIRONMENTAL

LOW FLOW GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SC210108-01	Well No:	ENV-299
Job No:	WM	Date:	10/8
Recorded By:	NC	Time:	12:23
Weather:	~~Ebo~~ Partly cloudy		

CONSTRUCTION INFORMATION

Well Type:	☒ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	-0.15
Well Material:	☒ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	2.5
Well Head Condition:	Good, semi flooded	Screen Interval – Bottom (m BTOC)	5.5

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):	—	☐ Pump Type: ☐ Submersible ☐ Bladder ☒ Peristaltic ☐ Other	
Water Level Depth (WL in m BTOC):	4.455	Initial Pump Rate (L/min)	~0.17
DNAPL Level Depth (DL in m BTOC):	—	PUMP INTAKE SETTING	
Total Depth of Well (TD in m BTOC):	6.400	Depth (m BTOC):	~4.5 → 5.0
Height of Standing Water Column (TD-WL, in m):	~~[illegible]~~ 1.945	Purged dry?	☒ No ☐ Yes, at ____ L

(2042)

In accordance with USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504), draw down to be limited to <0.1m during sampling. Typically, flow rates on the order of 0.1 - 0.5 L/min are used, however this is dependent on site-specific hydrogeology and flow rates up to 1 L/min may be acceptable where draw down is able to be maintained at <0.1m.

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	Pump Rate	SWL	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	L/min	m BTOC	-	µS/cm	mV	ppm	% Sat	NTU			°C
12:38	0.5		4.54	4.84	1688	290.3	0.69			0.93		20.8
12:41	0.9		4.59	4.76	1689	296.7	0.72			0.93		20.9
12:44	1.3		4.64	4.76	1718	294.2	0.83			0.95		21.0
12:47	1.8		4.71	4.80	1716	295.3	0.93			0.94		21.1
12:50	2.5		4.77	4.84	1742	292.2	1.0			0.96		21.1
12:53	2.9		4.84	4.84	1743	293.3	1.11			0.96		21.0
12:56	3.5		4.88	4.87	1746	292.1	1.12			0.96		21.1
Acceptable Variation			<0.1m	± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N			Y	Y	Y	Y	Y					

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504).

Observations during purging (well condition, turbidity, colour, odour): ~~clear~~ colourless, clean, no odour, no silt at bottom

Discharge water disposal: ☐ Drums ☒ Other

WELL SAMPLING

SAMPLING METHOD

☒ Same as purge method

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

☐ Pump – Type: ☐ Submersible ☐ Bladder ☒ Other Peri

SAMPLE DISTRIBUTION:

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate Blank	Comments
	ENV_299				
Analysis/ Bottles					

epic ENVIRONMENTAL

LOW FLOW GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SC210108.01	Well No:	WTP_BH31A
Job No:	NM	Date:	10/8
Recorded By:	NC	Time:	14:53
Weather:	~~a~~ partly Cloudy		

CONSTRUCTION INFORMATION

Well Type:	☑ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	~ 0.0
Well Material:	☑ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	4.0
Well Head Condition:	Good,	Screen Interval – Bottom (m BTOC)	8.5

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):	—	☐ Pump Type: ☐ Submersible ☐ Bladder ☑ Peristaltic ☐ Other	
Water Level Depth (WL in m BTOC):	4.270	Initial Pump Rate (L/min)	~0.17
DNAPL Level Depth (DL in m BTOC):	—	**PUMP INTAKE SETTING**	
Total Depth of Well (TD in m BTOC):	8.380	Depth (m BTOC):	~ 7.5
Height of Standing Water Column (TD-WL, in m):	4.11	Purged dry?	☐ No ☐ Yes, at ______ L

In accordance with USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504), draw down to be limited to <0.1m during sampling. Typically, flow rates on the order of 0.1 - 0.5 L/min are used, however this is dependent on site-specific hydrogeology and flow rates up to 1 L/min may be acceptable where draw down is able to be maintained at <0.1m.

FIELD PARAMETER MEASUREMENTS

	Time	Volume Purged	Pump Rate	SWL	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
15.27	HH:MM	L	L/min	m BTOC	-	µS/cm	mV	ppm	% Sat	NTU	____	____	°C
	15:30	0.5		4.33	6.70	5556	181.5	0.19			3.40		19.3
	15:33	1.1		4.46	6.84	5324	180.8	0.18			3.22		19.6
15:36	~~15:3[illegible]~~	1.7		4.52	6.87	5090	182.3	0.28			3.09		19.5
15.39	~~15:[illegible]~~	2.0		4.61	6.90	4800	184.8	0.30			2.89		19.5
15.42	~~15:42~~	2.4		4.675	6.91	4595	187.8	0.35			2.77		19.4
15.45	~~15:[illegible]~~	2.8		4.75	6.92	4446	190.6	0.39			2.67		19.4
15.48	~~15:48~~	3.1		4.80	6.93	4333	193.2	0.44			2.62		19.2
15:51		3.4		4.87	6.89	4737	194.9	0.47			2.85		19.3
15:54		3.7		4.94	6.95	4282	191.7	0.50			2.58		19.2
15:57		4.0		4.98	6.96	4033	192.2	0.55			2.40		19.2
	Acceptable Variation			<0.1m	± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
	Results Acceptable? Y/N			Y	Y	N	Y	Y					

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504).

Observations during purging (well condition, turbidity, colour, odour): ~~possible silt at bottom~~ colourless, ~~[illegible]~~ no odour / sheen. unable to stabilise EC, v slow pump output.

Discharge water disposal: ☐ Drums ☑ Other

WELL SAMPLING

SAMPLING METHOD ☑ Same as purge method

☐ Bailer – Type: ☑ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☑ Other peri

SAMPLE DISTRIBUTION:

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate Blank	Comments
	~~[illegible]~~ WTP_BH32A.				
Analysis/ Bottles					

epic ENVIRONMENTAL

LOW FLOW GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SC210108.01	Well No:	ENV-300
Job No:	WM	Date:	10/8/22
Recorded By:	NC	Time:	10.28
Weather:	Sunny		

CONSTRUCTION INFORMATION

Well Type:	☒ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	~ 0.1 mbgl
Well Material:	☒ PVC ☐ SS ☐ Other:	Screen Interval – Top (m BTOC)	
Well Head Condition:	Good, & semi flooded. pvc pipe in good	Screen Interval – Bottom (m BTOC)	

WELL PURGING

PURGE VOLUME		PURGE METHOD	
LNAPL Level Depth (LL in m BTOC):	—	☐ Pump Type: ☐ Submersible ☐ Bladder ☒ Peristaltic ☐ Other	
Water Level Depth (WL in m BTOC):	5.01	Initial Pump Rate (L/min)	0.17
DNAPL Level Depth (DL in m BTOC):	—	PUMP INTAKE SETTING	
Total Depth of Well (TD in m BTOC):	5.485	Depth (m BTOC): ~ 5.3 ~4.99	where we put tubing
Height of Standing Water Column (TD-WL, in m):	0.475	Purged dry?	☒ No ☒ Yes, at ___ L

In accordance with USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504), draw down to be limited to <0.1m during sampling. Typically, flow rates on the order of 0.1 - 0.5 L/min are used, however this is dependent on site-specific hydrogeology and flow rates up to 1 L/min may be acceptable where draw down is able to be maintained at <0.1m.

FIELD PARAMETER MEASUREMENTS

Time	Volume Purged	Pump Rate	SWL	pH	Electrical Conductivity	ORP or RedOx	DO	DO	Turbidity	Salinity	TDS	Temp.
HH:MM	L	L/min	m BTOC	-	µS/cm	mV	ppm	% Sat	NTU	____	____	°C
10:50	0.3	0.1	5.051	5.14	3777	197.1	1.27			2.19		20.5
10:53	0.6	0.1	5.096	5.70	3615	202.3	1.07			2.10		20.3
10:56	0.9	0.1	5.136	5.72	3517	204.9	1.11			2.04		20.5
10:59	1.2	0.1	5.170	5.73	3507	201.4	1.20			2.03		20.4
11:02	1.5	0.1	5.205	5.71	3485	206.5	1.28			2.01		20.4
Acceptable Variation			<0.1m	± 0.1	± 3%	± 10 mv	± 10%	± 10%	± 10%	-	-	-
Results Acceptable? Y/N			Y	Y	Y	Y	Y					

Note: Results are acceptable after all parameters have achieved stabilisation for three successive readings within nominated tolerances as adopted from USEPA Low-flow (minimal drawdown) Ground-water Sampling Procedures, April 1996 (ref. EPA/540/S-95/504).

Observations during purging (well condition, turbidity, colour, odour): no silt at bottom, brown, ~~slig~~ cloudy, no odour
no odour unable to stabilise, pump on SWL, lowest setting, recharge too slow

Discharge water disposal: ☐ Drums ☒ Other

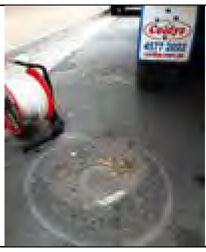
WELL SAMPLING

SAMPLING METHOD
☐ Bailer – Type: ☒ PVC ☐ SS ☐ Teflon ☐ Other
☒ Same as purge method
☐ Pump – Type: ☐ Submersible ☐ Bladder ☒ Other Peri

SAMPLE DISTRIBUTION:

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate Blank	Comments
	ENV-300			WM-RB01	⇒ IP
Analysis/ Bottles					

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_BH004_s		
Date:	19/10/2022 07:27		
Lat / Long:	-33.81308,151.00553	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.05
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	4.56	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	11.4	Well Diameter (mm)	50
Height of Standing Water Column (m)	6.840000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	71.82

FIELD PARAMETER MEASUREMENT

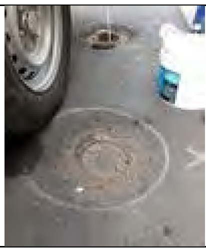
Purged dry?	☐ Yes	At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	07:40				5.77	0.309	143.2					200.85	19.6		
19/10	07:42	0.4	0.2	4.57	5.78	0.31	148.2					201.5	19.6		
19/10	07:44	0.6	0.1		5.76	0.31	152					201.5	19.6	Clear	No
19/10	07:48	1	0.1333333333333		5.75	0.311	157.9					202.15	19.6		
19/10	07:50		0	4.58	5.75	0.312	159.9					202.8	1.96		
19/10	07:52		0	4.59	5.76	0.312	160.4	0.24				202.3	19.6		
19/10	07:54		0		5.75	0.312	161.2	0.54				202.18	19.7		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_BH004_w		
Date:	19/10/2022 07:58		
Lat / Long:	-33.8131,151.00553	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.1
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Bailer
Water Level Depth (WL in m BTOC)	10.6	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	25	Well Diameter (mm)	50
Height of Standing Water Column (m)	14.4	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	151.2

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	08:36				5.94	0.036	156.7	1.48				23.4	20.3	Clear	No
19/10	08:38		0		5.9	0.036	158.2	1.56				23.4	20.6		
19/10	08:40		0		5.96	0.036	155.5	1.23				23.4	20.2		
19/10	08:42		0		5.93	0.036	158.2	1.23				23.4	20.2		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	SMW_WTP-BH30		
Date:	11/10/2022 06:51		
Lat / Long:	-33.83204,151.02507	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.427	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10	Well Diameter (mm)	50
Height of Standing Water Column (m)	8.573	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	90.017

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_ENV283_s		
Date:	19/10/2022 16:40		
Lat / Long:	-33.82756,151.02402	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.01
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.02	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.9	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.8800000000000003	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	40.74

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	16:45	0.5		1.12	5.62	3.45	153.8	4.14				2,223	20.8	Clear	No
19/10	16:48	1	0.25	1.27	5.51	3.05	165	4.1				1,989	20.7	Clear	No
19/10	16:51	1.5	0.1666666666667	1.35	5.48	2.64	175.5	4.64				1,696.5	20.6		
19/10	16:54	1.5	0	1.53	5.45	2.32	179.3	5.02				1,482	20.6		
19/10	16:56	2	0.5	1.43	5.42	2.1	182.4	5.15				1,365	20.6		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ4w_MW08		
Date:	19/10/2022 15:12		
Lat / Long:	-33.82926,151.0222	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.4
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.3	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	7	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.7	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	49.35

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	15:19	0.5		2.4	6.23	15.42	129.7					10,055.6	22.6	Clear	No odour
19/10	15:22	1	0.25	2.59	6.24	14.97	132.3	0.14				9,678.5	22.5	Clear	
19/10	15:25	1.5	0.25	2.65	6.24	14.03	131.9	1.01				9,067.5	22.6		
19/10	15:29	2.5	0.25	2.77	6.22	12.83	131.5	2.07				8,261.5			
19/10	15:32	3	0.25	2.83	6.21	11.89	131.2	2.59				7,676.5	22.5		
19/10	15:36	3.5	0.1666666666666667	3	6.18	10.45	131.1	3.1				6,760	22.4	Clear	No odor
19/10	15:39	4	0.25	3.07	6.18	10.08	131.1	3.19				6,539	22.4	Clear	No odour

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
	CZ4w_MW08	CZ4w_QC201	CZ4w_QC201	R1
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program
Job No:	SC210108.03
Recorded By:	Joy X
Weather:	P s
Well No:	CZ6_MW05
Date:	19/10/2022 13:51
Lat / Long:	-33.82881,151.02294

Photo1: Area

Photo 2: Bore condition

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.6	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.2	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.6	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	37.8

FIELD PARAMETER MEASUREMENT

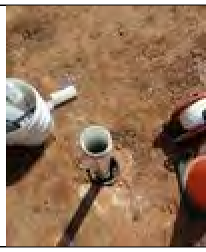
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	14:07	1		1.65	6.67	1.18	26.3					760.5	22.2	Clear	No
19/10	14:10	1.5	0.25	1.85	6.67	1.17	16.8					760.5	22.3		
19/10	14:13	2	0.25	2	6.69	1.17	8.1	0.37				760.5	22.3	Grey/ brown	No
19/10	14:15	2.5	0.25	2.1	6.71	1.17	2.7	0.08				760.5	22.3	Suspe nsion	
19/10	14:20	3	0.1	2.32	6.67	1.17	-8					760.5	22.1		
19/10	14:32		0		6.59	1.21	-43.9					786.5	22		
19/10	14:35		0	2.75	6.57	1.21	-45.6	0.04				786.5	21.9		
19/10	14:39		0		6.57	1.21	-46.4	0.09				785.6	21.8		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Partly sunny		
Well No:	PM_BH19		
Date:	19/10/2022 10:39		
Lat / Long:	-33.81532,151.00516	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	1
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	0

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.54	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10	Well Diameter (mm)	50
Height of Standing Water Column (m)	7.46	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	78.33

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

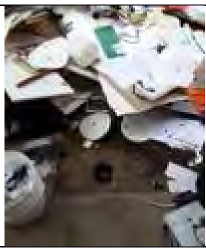
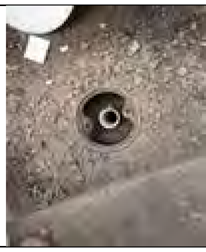
Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	10:52				5.89	2.68	187.5	2.46				1,755	22		
19/10	10:55		0		5.91	2.76	186.7	2.25				1,800.5	22		
19/10	10:57		0		5.93	2.83	185.5	2.14				1,846	21.9		
19/10	11:00		0		5.94	2.85	184.2	2.43				1,852.5	21.8		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	P s		
Well No:	CZ6_MW07		
Date:	19/10/2022 13:17		
Lat / Long:	-33.82892,151.02401	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.6	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.4	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	35.7

FIELD PARAMETER MEASUREMENT

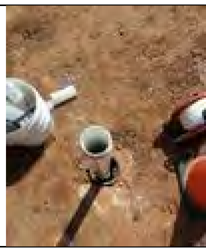
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	13:22	0.5		0.56	5.05	4.18	122.5	0.69				2,730	21.5	Clear	
19/10	13:25	1	0.25	0.6	5.08	4.2	116	2.73				2,730	21.3	Clear	No odour
19/10	13:27	2	0.5	0.65	5.18	4.09	104.8	4.54				2,652	21.3	Clear	No
19/10	13:29	2.5	0.5	0.65	5.21	4.05	96	5.19				2,600	21.3	Clear	No
19/10	13:31	3	0.25	0.65	5.28	3.9	87.6	5.66				2,541.5	21.5		
19/10	13:31	3.2		0.65	5.3	3.9	87.3	5.86				2,535	21.5		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Partly sunny		
Well No:	PM_BH19		
Date:	19/10/2022 10:39		
Lat / Long:	-33.81532,151.00516	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	1
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	0

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.54	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10	Well Diameter (mm)	50
Height of Standing Water Column (m)	7.46	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	78.33

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	10:52				5.89	2.68	187.5	2.46				1,755	22		
19/10	10:55		0		5.91	2.76	186.7	2.25				1,800.5	22		
19/10	10:57		0		5.93	2.83	185.5	2.14				1,846	21.9		
19/10	11:00		0		5.94	2.85	184.2	2.43				1,852.5	21.8		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:	Cloudy		
Well No:	SMW_BH002_w		
Date:	19/10/2022 07:31		
Lat / Long:	-33.81494,151.00569	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Bailer
Water Level Depth (WL in m BTOC)	10.8	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	34.05	Well Diameter (mm)	50
Height of Standing Water Column (m)	23.249999999999996	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	244.125

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
19/10	08:17				6.05	0.047	95.3	0.72				31.2	19.9	Black floc	Sewer smell

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Patrick C		
Weather:			
Well No:	CZ6_MW04		
Date:	18/10/2022 15:22		
Lat / Long:	-33.82864,151.02387	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.64	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.46	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.82	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	50.61

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**		☐ Yes ☐ No
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	CZ3b_MW02		
Date:	12/10/2022 10:35		
Lat / Long:	-33.8236,151.02216	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	PM_BH14		
Date:	17/10/2022 14:24		
Lat / Long:	-33.81518,151.00414	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	4.35	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	6	Well Diameter (mm)	50
Height of Standing Water Column (m)	1.6500000000000004	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	17.325

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
17/10	14:58	1		4.54	6.18	543	76	2.84			0.3	403	18.4	Clear/ Brown	No
17/10	15:01	1.5	0.25	4.55	6.17	543	70.8	2.76			0.3	403	18.4	Clear	No odor
17/10	15:07	2.5	0.2	4.62	6.16	541	61.1	2.72			0.3	403	18.3		
17/10	15:10	3	0.25	4.61	6.18	541	59.2	2.95			0.3	403	18.3		
17/10	15:14	3.5	0.125	4.53	6.14	541	56.9	2.59			0.3	403	18.3	Brown	No

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_BH049		
Date:	17/10/2022 14:37		
Lat / Long:	-33.81321,151.00367	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	**Time**	**Purged**	**Rate**	**SWL**	**pH**	**EC**	**ORP**	**DO**	**DO**	**Tur**	**Sal**	**TDS**	**Temp**	**Colour**	**Odour**
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	PM_BH19		
Date:	17/10/2022 12:35		
Lat / Long:	-33.81531,151.0052	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.6	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	9	Well Diameter (mm)	50
Height of Standing Water Column (m)	6.4	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	67.2

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	SMW_BH003		
Date:	17/10/2022 11:53		
Lat / Long:	-33.81458,151.00397	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		Purge Method	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

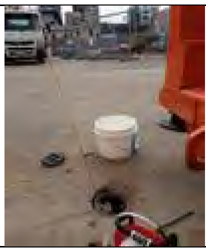
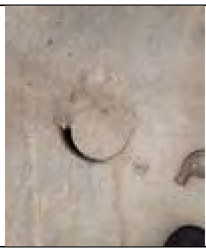
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	SMW_BH003_s		
Date:	17/10/2022 11:47		
Lat / Long:	-33.81454,151.00401	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.01
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		Purge Method	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	6.3	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.6	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.3	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	45.15

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	PM_BH15		
Date:	17/10/2022 10:17		
Lat / Long:	-33.81392,151.00428	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.4
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	4.34	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.1	Well Diameter (mm)	50
Height of Standing Water Column (m)	5.76	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	60.48

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date MM/DD	Time HH:MM	Purged L	Rate	SWL mBTOC	pH	EC µS/cm	ORP mV	DO ppm	DO % Sat	Tur NTU	Sal	TDS	Temp °C	Colour	Odour
17/10	10:55	0.5		4.5	5.4	622	105.6	2.2			0.35	468	17.9		
17/10	10:58	1	0.25	4.5	5.4	623	97.6	1.94			0.35	468	17.8	Clear	No
17/10	11:01	1.5	0.25	4.5	5.4	622	93.3	1.87			0.35	468	17.8	Clear	No
17/10	11:04	2	0.1666666666666667	4.8	5.4	622	89.5	1.83			0.35	468	17.8	Clear	No
17/10	11:07	2.5	0.25	4.5	5.4	622	80.5	1.8			0.35	468	17.8		
17/10	11:09	3	0.5	4.9	5.4	622	75.4	1.8			0.35	468	17.8	Clear	No
17/10	11:13	4	0.25	4.9	5.41	622	68.8				0.35	468	17.8		
17/10	11:17	4.5	0.1666666666666667	4.9	5.39	622	64.2	1.81			0.35	468	17.9	Clear	No

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	PM_BH16		
Date:	17/10/2022 09:37		
Lat / Long:	-33.81395,151.00442	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	0.65
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	4.23	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	9	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.77	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	50.085

FIELD PARAMETER MEASUREMENT

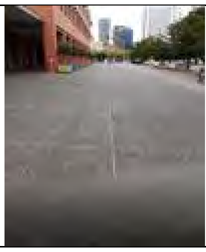
Purged dry?	☐ Yes At L	☑ No

Date MM/DD	Time HH:MM	Purged L	Rate	SWL mBTOC	pH	EC µS/cm	ORP mV	DO ppm	DO % Sat	Tur NTU	Sal	TDS	Temp °C	Colour	Odour
17/10	09:47	0.8		4.31	6.29	0.232	137.6	3.91				149.5	18	Clear	No odor
17/10	09:50	1	0.0666666666666667	4.31	6.06	0.221	145	4.48				143	18	Clear	No odour
17/10	09:53	1.2	0.1	2.31	5.93	0.216	151.5	4.46				139.1	18	Clear	No
17/10	09:58	2	0.16	4.31	5.85	0.208	157.2	4.26				135.2	18		
17/10	09:59	2.3		4.31	5.84	0.207	158.4	3.97				134.55	17.9		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_WTP_BH024		
Date:	13/10/2022 11:00		
Lat / Long:	-33.84624,151.06723	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

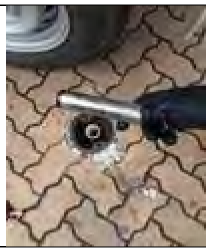
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_WTP_BH23		
Date:	13/10/2022 10:27		
Lat / Long:	-33.84365,151.06356	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.1
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Bailer
Water Level Depth (WL in m BTOC)	6	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	30.6	Well Diameter (mm)	50
Height of Standing Water Column (m)	24.6	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	258.3

FIELD PARAMETER MEASUREMENT

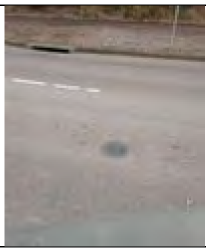
Purged dry?	☑ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
13/10	10:47				6.75	0.86	133.4	1.59				559	20.5		
13/10	10:49		0		6.75	0.86	134.8	2.99				559	20.6	Clear	No
13/10	10:51		0		6.75	0.86	135.9	3.06				559.5	20.6		
13/10	10:53		0		6.75	0.86	136.4	2.65				559	20.6		
13/10	10:56		0		6.75	0.86	137	2.12				559	20.6		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:	Bailer	**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
	SMW_WTP_BH23			R4
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH22		
Date:	13/10/2022 10:11		
Lat / Long:	-33.84222,151.05853	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	CZ1_BH13		
Date:	10/10/2022 13:48		
Lat / Long:	-33.83415,151.02826	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.73
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.84	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.5	Well Diameter (mm)	50
Height of Standing Water Column (m)	7.66	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	80.43

FIELD PARAMETER MEASUREMENT

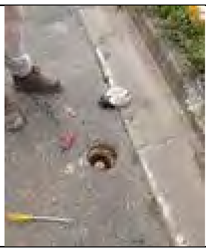
Purged dry?	☑ Yes	At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	13:54	0.5		3.045	6.08	23.5	65.9	0.14				5,286	18.4	Slight brown	No
10/10	13:58	1	0.125	3.17	6.08	23.59	61	0.63				5,333.5	18.4	Slight brown	No
10/10	14:01	1.2	0.1	3.33	6.08	5,346	57.8	1.21				5,346	18.4	Slight brown	No
10/10	14:05	1.7	0.125	3.4	6.09	23.61	52.6	2.27				5,353	18.3	Slight brown	No
10/10	14:10	2	0.075	3.385	6.09	23.7	49.3	2.89				5,398	18.2	Slight brown	No

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:	Peristatic	**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_ENV148		
Date:	10/10/2022 14:30		
Lat / Long:	-33.8336,151.02743	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.87	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	6.3	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.43	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	46.515

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

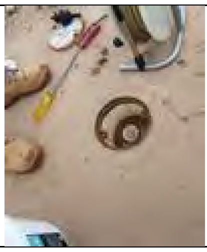
Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations			
Additional Comment			
Sampling Method:		**Sampled ?**	☐ Yes ☑ No

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH25_s		
Date:	11/10/2022 07:14		
Lat / Long:	-33.8297,151.02566	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.19	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.72	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.53	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	37.065

FIELD PARAMETER MEASUREMENT

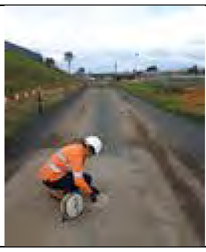
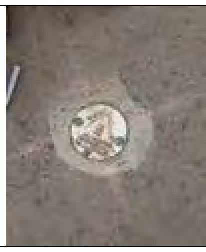
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_WTP_BH26		
Date:	11/10/2022 10:26		
Lat / Long:	-33.83093,151.02432	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		Purge Method	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

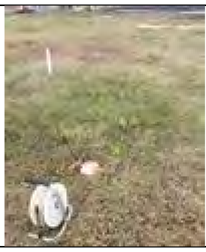
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	SMW_WTP_BH27		
Date:	11/10/2022 10:17		
Lat / Long:	-33.83104,151.02362	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.15	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.92	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.77	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	50.085

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ5_MW26		
Date:	10/10/2022 09:15		
Lat / Long:	-33.82945,151.02398	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.065	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.93	Well Diameter (mm)	50
Height of Standing Water Column (m)	2.8649999999999998	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	30.083

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_WTP_BH018		
Date:	10/10/2022 11:32		
Lat / Long:	-33.82827,151.02412	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

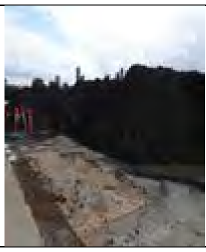
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_ENV284		
Date:	10/10/2022 11:32		
Lat / Long:	-33.82826,151.02414	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

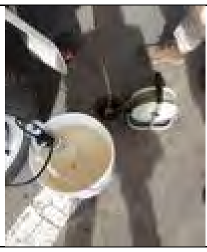
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV083		
Date:	10/10/2022 07:58		
Lat / Long:	-33.82847,151.02337	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.05
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	0.27	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.91	Well Diameter (mm)	50
Height of Standing Water Column (m)	5.640000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	59.22

FIELD PARAMETER MEASUREMENT

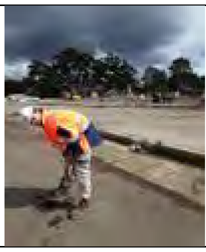
Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	08:13	0.1		0.545	5.04	11.24	173.7	2.64				7,241	19.1	Clear	
10/10	08:18	0.2	0.075		5.06	10.96	163.9	3.56				7,124	19	Clear	No odour
10/10	08:20	0.3	0.15	1.1	5.1	9.94	149.7	4.66				6,370	19.1	Red suspe nsion	No
10/10	08:29	0.4	0.211 1111 1111 1111	1.22	5.14	8.56	136	5.28				5,447	19.3	Red suspe nsion	No
10/10	08:39	0.5	0	1.6	5.2	6.63	120.4	5.7				4,277	19.5		
10/10	08:47	0.55	0.007 1428 5714 2857 15	1.54	5.21	6.08	113.6	5.91				3,991	19.2	Clear, red suspe nsion	No odor
10/10	08:51	0.65	0.025	1.52	5.22	5.83	109.8	6.03				3,783	19.2	Clear suspe nsion	No
10/10	08:54	0.7	0.025	1.54	5.22	5.84	109.1	6.05				3,796	19.2		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy dry		
Well No:	SMW_ENV088		
Date:	10/10/2022 09:24		
Lat / Long:	-33.82965,151.02199	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.02
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.77	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.91	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.14	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	32.97

FIELD PARAMETER MEASUREMENT

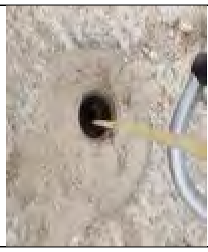
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	SMW_WTP_BH29		
Date:	11/10/2022 11:09		
Lat / Long:	-33.83011,151.02158	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.1
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Bad	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.43	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	11.7	Well Diameter (mm)	50
Height of Standing Water Column (m)	9.27	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	97.335

FIELD PARAMETER MEASUREMENT

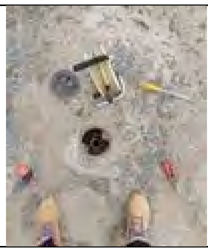
Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV219		
Date:	11/10/2022 11:14		
Lat / Long:	-33.83005,151.02154	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.02
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.8	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	6.4	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.6000000000000005	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	37.8

FIELD PARAMETER MEASUREMENT

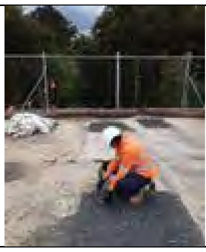
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ5_MW19		
Date:	11/10/2022 11:01		
Lat / Long:	-33.83,151.02116	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.85	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.1	Well Diameter (mm)	50
Height of Standing Water Column (m)	2.2499999999999996	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	23.625

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	CZ6_MW03		
Date:	10/10/2022 11:37		
Lat / Long:	-33.82813,151.02316	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.54	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.33	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.79	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	50.295

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_ENV283_s		
Date:	10/10/2022 11:51		
Lat / Long:	-33.82758,151.02409	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.9	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.8	Well Diameter (mm)	50
Height of Standing Water Column (m)	2.9	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	30.45

FIELD PARAMETER MEASUREMENT

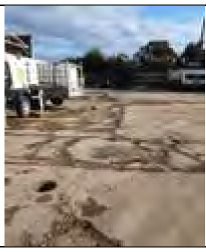
Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Partly sunny		
Well No:	SMW_ENV283		
Date:	12/10/2022 06:47		
Lat / Long:	-33.82758,151.02404	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-0.02
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.2	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	25.49	Well Diameter (mm)	50
Height of Standing Water Column (m)	23.29	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	244.545

FIELD PARAMETER MEASUREMENT

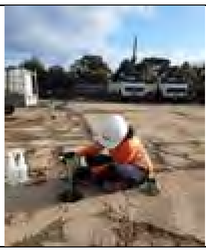
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Sunny		
Well No:	SMW_ENV283_s		
Date:	12/10/2022 06:43		
Lat / Long:	-33.82758,151.02408	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	0.01
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.5	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.9	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.4000000000000004	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	35.7

FIELD PARAMETER MEASUREMENT

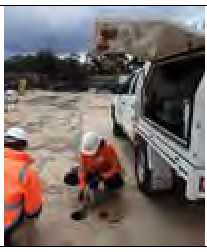
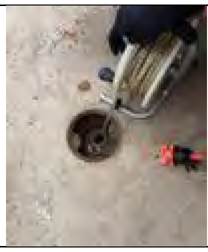
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV283		
Date:	10/10/2022 11:49		
Lat / Long:	-33.82755,151.0241	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.98	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	25.49	Well Diameter (mm)	50
Height of Standing Water Column (m)	23.509999999999998	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	246.855

FIELD PARAMETER MEASUREMENT

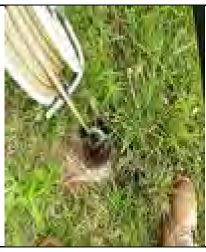
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH13		
Date:	12/10/2022 08:13		
Lat / Long:	-33.82721,151.02484	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.64	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	7.35	Well Diameter (mm)	50
Height of Standing Water Column (m)	6.71	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	70.455

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
12/10	08:21	0.2		0.66	6.7	1.03	197.5	0.53				669.5	17.2	Clear	No
12/10	08:24	0.3	0.05	0.66	6.72	1.02	187.5	0.33				656.5	17.3	Clear	No
12/10	08:26	0.4	0.1	0.69	6.73	0.96	172	0.16				624.5	17.3	Clear	No
12/10	08:28	0.3	0	0.69	6.74	0.95	157.2	0.21				617.5	17.3	Clear	No
12/10	08:30		0	0.7	6.75	0.95	155.2	0.28				617.5	17.4		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	SMW_ENV039		
Date:	12/10/2022 08:51		
Lat / Long:	-33.8269,151.02163	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	4.35	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.4	Well Diameter (mm)	50
Height of Standing Water Column (m)	6.050000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	63.525

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

Date MM/DD	Time HH:MM	Purged L	Rate	SWL mBTOC	pH	EC µS/cm	ORP mV	DO ppm	DO % Sat	Tur NTU	Sal	TDS	Temp °C	Colour	Odour
12/10	08:59	0.6		4.35	6.18	20.82	74	0.22				3,513.5	19.1	Clear	No
12/10	09:03	1	0.1333333333333	4.47	6.13	20.75	62.6	0.94				3,481	19.4	Clear	No
12/10	09:05	1.5	0.25	4.53	6.1	20.76	55.3	2.25				3,500.5	19.6		
12/10	09:08	2	0.25	4.57	6.1	20.81	51.5	2.96				3,533	19.7		
12/10	09:11	3	0.5	4.6	6.09	20.89	47.9	3.39				3,585	19.8		
12/10	09:16	3.5	0.1	4.66	6.09	21.23	42.1	3.86				3,799.5	19.9		
12/10	09:19	4	0.1666666666667	4.74	6.1	4.03	39.6	4.01				3,669.5	20.3		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	CZb_MW03		
Date:	12/10/2022 09:20		
Lat / Long:	-33.82686,151.02162	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	CZ2b_MW02		
Date:	12/10/2022 10:35		
Lat / Long:	-33.8236,151.02216	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

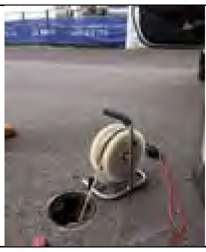
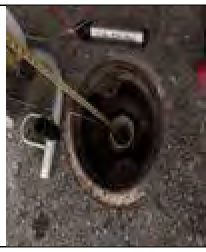
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcasy		
Well No:	SMW_ADD_BH02		
Date:	12/10/2022 12:30		
Lat / Long:	-33.82249,151.02173	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.01
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		Purge Method	
LNAPL Level Depth (LL in m BTOC)		Method	Bailer
Water Level Depth (WL in m BTOC)	11.57	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	30.6	Well Diameter (mm)	50
Height of Standing Water Column (m)	19.03	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	199.815

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
12/10	12:59				5.04	0.067	200	6.46				43.55	21.7		
12/10	13:01		0		5.04	0.066	201.9	6.15				42.9	21.7		
12/10	13:02		0		5.05	0.067	203.8	5.93				42.9	21.7	Clear	No
12/10	13:04		0		5.05	0.066	205.1	5.86				42.9	21.7		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	CZ3b_MW01		
Date:	12/10/2022 13:08		
Lat / Long:	-33.82177,151.02213	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)	NaN	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	NaN

FIELD PARAMETER MEASUREMENT

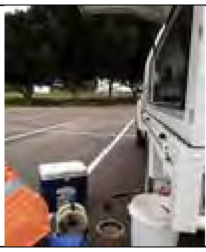
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_ENV009		
Date:	12/10/2022 10:54		
Lat / Long:	-33.82001,151.02256	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.02
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.705	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	7.2	Well Diameter (mm)	50
Height of Standing Water Column (m)	5.495	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	57.698

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
12/10	11:00	0.5		1.72	7.05	1.49	-98					955.5	20.9	Red colloids, clear	No
12/10	11:04	1	0.1666666666666667	1.72	6.99	1.38	-107.1					897	21	Yellow brown	No
12/10	11:07	1.5	0.25	1.72	6.97	1.35	-112					871	21.1		
12/10	11:10	2	0.25	1.72	6.96	1.34	-116.4	0.31				871	21.1		
12/10	11:14	2.5	0.125	1.72	6.95	1.33	-116.7	0.95				864.5	21.1		
12/10	11:16	3	0.25	1.72	6.95	1.32	-115.8	1.26				858	21.2		
12/10	11:19	5	1	1.72	6.93	1.32	-120.7	1.62				858	21.3		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**		☑ Yes ☐ No
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
	Yes	Yes QC03	Yes QC03	R3
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Shower		
Well No:	SMW_BH057_s		
Date:	12/10/2022 11:46		
Lat / Long:	-33.81975,151.02224	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.62	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.6	Well Diameter (mm)	50
Height of Standing Water Column (m)	2.9799999999999995	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	31.29

FIELD PARAMETER MEASUREMENT

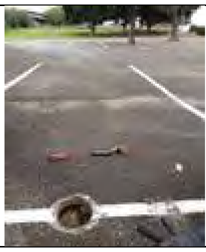
Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Shower		
Well No:	SMW_BH057		
Date:	12/10/2022 11:50		
Lat / Long:	-33.81977,151.02227	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.8	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	27.5	Well Diameter (mm)	50
Height of Standing Water Column (m)	25.7	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	269.85

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Partly sunny		
Well No:	WM_BH04		
Date:	13/10/2022 07:38		
Lat / Long:	-33.80873,150.98715	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	1.2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	6.45	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	9.1	Well Diameter (mm)	50
Height of Standing Water Column (m)	2.6499999999999995	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	27.825

FIELD PARAMETER MEASUREMENT

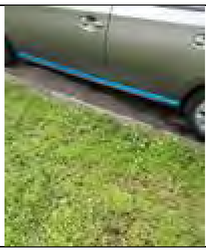
Purged dry?	☑ Yes	At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
13/10	07:56	0.2			6.55	3.35	185.4					2,177.5	19.5	Clear	No
13/10	07:59	0.4	0.1		6.54	3.15	157.3	0.5				2,041	19.7		
13/10	08:01		0	6.7	6.55	3.03	171.9	1.67				1,969.5	19.8		
13/10	08:03		0		6.53		169	2.18				1,872	19.8		
13/10	08:05		0	6.8	6.52		166	2.96				1,729	19.9		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH11		
Date:	13/10/2022 10:34		
Lat / Long:	-33.8177,151.01482	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**		☐ Yes ☐ No
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Partly sunny		
Well No:	WM_BH01		
Date:	13/10/2022 09:33		
Lat / Long:	-33.8094,150.98708	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	2
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_WTP_BH31A		
Date:	13/10/2022 08:33		
Lat / Long:	-33.80881,150.9874	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_ENV300		
Date:	13/10/2022 08:16		
Lat / Long:	-33.80931,150.98866	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.2
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	5.1	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.6	Well Diameter (mm)	50
Height of Standing Water Column (m)	0.5	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	5.25

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

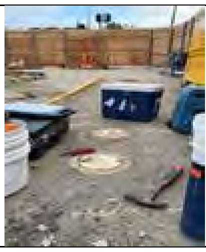
Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations			
Additional Comment			
Sampling Method:		**Sampled ?**	☐ Yes ☐ No

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV300_s		
Date:	13/10/2022 08:03		
Lat / Long:	-33.8093,150.98866	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	-10
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.12	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	2	Well Diameter (mm)	50
Height of Standing Water Column (m)	0.8799999999999999	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	9.24

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations			
Additional Comment			
Sampling Method:		**Sampled ?**	☐ Yes ☐ No

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_ENV010		
Date:	12/10/2022 12:58		
Lat / Long:	-33.82005,151.02226	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.57	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10	Well Diameter (mm)	50
Height of Standing Water Column (m)	8.43	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	88.515

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☑ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	CZb_MW03		
Date:	12/10/2022 10:20		
Lat / Long:	-33.82686,151.02162	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ2b_BH52		
Date:	11/10/2022 15:17		
Lat / Long:	-33.82896,151.02622	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.03	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10	Well Diameter (mm)	50
Height of Standing Water Column (m)	7.970000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	83.685

FIELD PARAMETER MEASUREMENT

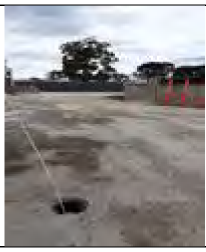
Purged dry?	☐ Yes At L	☐ No

Date MM/DD	Time HH:MM	Purged L	Rate	SWL mBTOC	pH	EC µS/cm	ORP mV	DO ppm	DO % Sat	Tur NTU	Sal	TDS	Temp °C	Colour	Odour
11/10	15:22	0.2			5.8	14.85	108.5	1.55				484.2	182	Yellowish	No
11/10	15:25	0.4	0.1	2.24	5.62	18.76	103	0.38				2,246.5	18.4	Yellowish	No
11/10	15:27	0.6	0.1		5.61	19.12	100.7	0.8				2,434.5	18.5	Yellowish	No
11/10	15:29		0	2.41	5.59	19.28	98.4	1.18		2,538.5			18.5		
11/10	15:31	0.8	0.8	2.45	5.58	2,577.5	94.8	1.7				2,577.5	18.5		
11/10	15:34	1	0.0666666666666667	2.54	5.58	19.36	94.1	2.25				2,590.5	18.6		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ4e_MW02		
Date:	11/10/2022 14:40		
Lat / Long:	-33.82859,151.0267	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.05
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.82	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.95	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.1300000000000003	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	32.865

FIELD PARAMETER MEASUREMENT

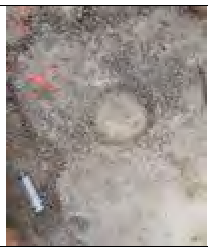
Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
11/10	14:51	0.8		2.95	5.56	13.52	180.7	3.79				8,775	19.3	Clear	No
11/10	14:54	1	0.1	3.03	5.49	13.37	182.6	4.21				8,684	19.3	Clear	No
11/10	14:58	1.2	0.05	3.13	5.37	12.97	188.6	4.78				8,417.5	19.3		
11/10	15:00	2	0.4	3.2	5.32	12.83	190.6	4.85				8,320	19.4		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ4e_MW01		
Date:	11/10/2022 14:01		
Lat / Long:	-33.82824,151.02656	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.03
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.15	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.95	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.800000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	50.4

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
11/10	14:11	0.5		1.33	5.04	14.29	178.1	2.11				9,288.5	18.9	Clear	No
11/10	14:14	1	0.25	1.5	5	14.15	190.7	3.18				9,184.5	19.1		
11/10	14:17	1.5	0.25	1.59	5	14.1	196.3	4.25				9,165	19.1		
11/10	14:20	2	0.1666666666666667	1.7	5.03	14	198.2	4.67				9,106.5	19		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ4e_MW03		
Date:	11/10/2022 13:20		
Lat / Long:	-33.82835,151.02753	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0.1
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.2	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.36	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.16	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	33.18

FIELD PARAMETER MEASUREMENT

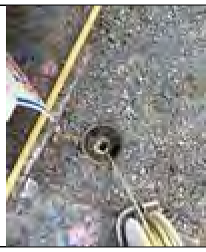
Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
11/10	13:30	0.5		1.4	6.07	4.6	145.8	1.18				2,990	18.7	Clear	No
11/10	13:33	1	0.25	1.5	6.06	4.57	146	1.47				2,970.5	18.8		
11/10	13:36	1.5	0.25	1.57	6.02	4.54	146.1	2.02				2,944.5	18.9		
11/10	13:39	2	0.25	1.63	6.01	4.51	146.4	2.68				2,931.5	18.9		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	CZ5_MW16		
Date:	11/10/2022 10:20		
Lat / Long:	-33.83006,151.02364	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	0
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.76	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	6	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.24	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	44.52

FIELD PARAMETER MEASUREMENT

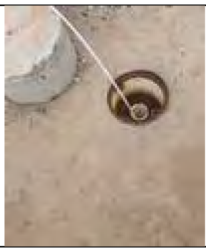
Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
11/10	10:35	0.8		1.8	5.78	8.02	19	0.96				5,167.5	18.5	Clear Brown isg	No
11/10	10:36	1		1.9	5.8	7.78	15.2	1.44				5,037.5	18.6		
11/10	10:39	1.5	0.25	2.3	5.85	7.36	7.3	2.16				4,745	18.6		
11/10	10:42	2.5	0.5	2.35	5.92	6.74	-3.3	2.7				4,335.5	18.6		
11/10	10:44	3	0.25	2.45	5.97	6.29	-10.5	2.94				4,043	18.5		
11/10	10:45	4		2.5	6.02	5.9	-17.8	3.16				3,783	18.5		
11/10	10:48	5	0.5	2.58	6.04	5.71	-20.3	3.24				3,685.5	18.5		
11/10	10:51	6	0.333333333333	2.64	6.06	5.43	-23.4	3.35				3,555.5	18.4		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
	CZ5_MW16			R2
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH25		
Date:	11/10/2022 08:17		
Lat / Long:	-33.82968,151.02565	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	2.405	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.15	Well Diameter (mm)	50
Height of Standing Water Column (m)	7.745000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	81.323

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
11/10	09:23	0.1		2.6	6.41	10.47	-15.1					6,838	18.9	Yellowish	No
11/10	09:27	0.4	0.075	2.77	6.4	10.83	-16.2					7,033	19		No
11/10	09:30	0.6	0	2.83	6.38	10.69	-20.9					715,050	19.1		
11/10	09:34	0.8	0.05	2.9	6.34	11.54	-25.3	0.3				7,253.5	19.1	Yellowish	No
11/10	09:37	1	0.1	2.94	6.27	12.86	-26.4	0.75				8,567	19.1		
11/10	09:39		0	2.97	6.24	14.59	-25.5	1.14				9,464	19.3		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV224		
Date:	11/10/2022 08:43		
Lat / Long:	-33.82995,151.02408	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.5	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	4.4	Well Diameter (mm)	50
Height of Standing Water Column (m)	1.9000000000000004	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	19.95

FIELD PARAMETER MEASUREMENT

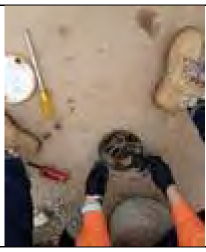
Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
11/10	08:45	0.05		2.35	6.49	4.89	-58.3	0				3,120	17.4	Grey	No
11/10	08:48	0.1	0.025	2.355	6.54	4.45	-65	0.46				2,886	17.4	Grey	No
11/10	08:50	0.15	0.025	2.355	6.61	3.98	-73.8	1.26				2,600	17.3	Clear, greyish	No
11/10	08:52	0.2	0.025	2.355	6.63	3.47	-77.7	1.8				2,242.5	17.2	Clear	No
11/10	08:53	0.25		2.355	6.65	3.21	-78.7	2.13				2,080	17.4	Clear	No
11/10	08:54	0.3		2.355	6.66	2.99	-77.8	2.33				1,911	17	Clear	No

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH25_w		
Date:	11/10/2022 08:17		
Lat / Long:	-33.82968,151.02565	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Fair	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	2.405	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.15	Well Diameter (mm)	50
Height of Standing Water Column (m)	7.745000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	81.323

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_WTP_BH30_s		
Date:	11/10/2022 07:58		
Lat / Long:	-33.83215,151.02508	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.45	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.38	Well Diameter (mm)	50
Height of Standing Water Column (m)	3.9299999999999997	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	41.265

FIELD PARAMETER MEASUREMENT

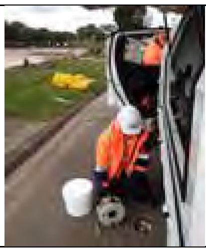
Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**		☐ Yes ☑ No
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy dry overcast		
Well No:	SMW_ENV149		
Date:	10/10/2022 14:06		
Lat / Long:	-33.83257,151.02692	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.43	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	9.5	Well Diameter (mm)	50
Height of Standing Water Column (m)	8.07	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	84.735

FIELD PARAMETER MEASUREMENT

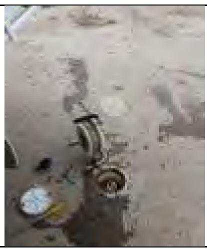
Purged dry?	☐ Yes	At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	14:08	0.1		1.67	6	17.86	47.6	0.1				1,583	19.1	Clear	No
10/10	14:13	0.2	0.02	1.79	5.96	17.79	49.9	0				1,589.5	19.1		
10/10	14:14	0.25		1.85	5.96	17.7	50	0.15				1,505	19.4		
10/10	14:17	0.3	0	1.95	5.94	17.67	48.6	0.73				1,485.5	19.5		
10/10	14:19	0.35	0.025	2	5.94	17.63	46.7	1.41				1,453	19.6	Clear	No odor

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:	Cloudy		
Well No:	SMW_ENV234		
Date:	10/10/2022 13:08		
Lat / Long:	-33.83163,151.02695	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.488	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.215	Well Diameter (mm)	50
Height of Standing Water Column (m)	4.727	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	49.634

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	13:10	0.5			6.27	33.93	-47.9					22,074	19.2		
10/10	13:19	0.8	0	0.5	6.28	33.96	-53.8					22.08	19	Clear	No
10/10	13:20	2.2			6.26	33.89	-65.9					22,022	19	Clear	No
10/10	13:25	2.5	0.06	0.51	6.25	33.83	-66.2	0.09				21,976.5	19.3		
10/10	13:27	2.8	0		6.21	33.68	-67.3	0.48				21,879	19.3		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
	SMW_ENV234	QC01	QC01	R1
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Overcast		
Well No:	CZ6_MW03		
Date:	10/10/2022 12:37		
Lat / Long:	-33.82813,151.02316	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	50
Height of Standing Water Column (m)		Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_ENV042		
Date:	10/10/2022 11:17		
Lat / Long:	-33.82978,151.02745	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.74	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.4	Well Diameter (mm)	50
Height of Standing Water Column (m)	8.66	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	90.93

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☑ No

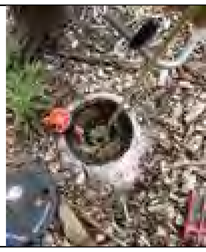
Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	11:23	0.1		2.185	5.6	16.93	92.2	0.03				1,004.5	18.5	Light yellow	No
10/10	11:31	0.2	0.0142857142857143	2.27	5.61	16.93	88	0.25				1,011	18.6		
10/10	11:33	0.3	0.1	2.39	5.6	16.95	84.2	0.5				1,011	18.4		
10/10	11:36	0.35	0.0166666666666667	2.48	5.6	16.93	82.7	0.75				1,004.5	18.3		
10/10	11:37	0.4		2.54	5.6	16.92	80.9	0.96				998	18.4	Yellow	No

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	C		
Well No:	SMW_BH010		
Date:	10/10/2022 11:26		
Lat / Long:	-33.82976,151.02743	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	1.205	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	27.23	Well Diameter (mm)	50
Height of Standing Water Column (m)	26.025	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	273.263

FIELD PARAMETER MEASUREMENT

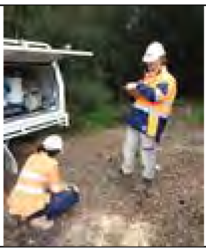
Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:			
Well No:	SMW_ENV042		
Date:	10/10/2022 11:17		
Lat / Long:	-33.82978,151.02745	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	1.74	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	10.4	Well Diameter (mm)	50
Height of Standing Water Column (m)	8.66	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	90.93

FIELD PARAMETER MEASUREMENT

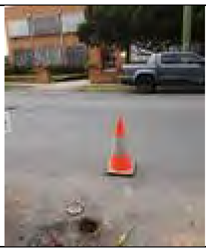
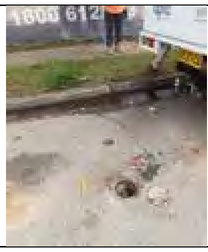
Purged dry?	☐ Yes At L	☑ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	11:23														

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV145		
Date:	10/10/2022 11:09		
Lat / Long:	-33.82806,151.02777	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		Purge Method	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	0.98	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	40.6	Well Diameter (mm)	50
Height of Standing Water Column (m)	39.620000000000005	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	416.01

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program
Job No:	SC210108.03
Recorded By:	Joy X
Weather:	Cloudy
Well No:	SMW_ENV083
Date:	10/10/2022 08:58
Lat / Long:	-33.82847,151.02337

Photo1: Area

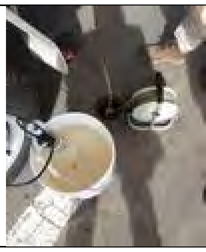


Photo 2: Bore condition

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	0.27	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.91	Well Diameter (mm)	50
Height of Standing Water Column (m)	5.640000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method	Drums	Minimum Purge Volume	59.22

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	09:13	0.1		0.545	5.04	11.24	173.7	2.64				7,241	19.1	Clear	
10/10	09:18	0.2	0.075		5.06	10.96	163.9	3.56				7,124	19	Clear	No odour
10/10	09:20	0.3	0.15	1.1	5.1	9.94	149.7	4.66				6,370	19.1	Red suspe nsion	No
10/10	09:29	0.4	0.211 1111 1111 1111	1.22	5.14	8.56	136	5.28				5,447	19.3	Red suspe nsion	No
10/10	09:39	0.5	0	1.6	5.2	6.63	120.4	5.7				4,277	19.5		
10/10	09:47	0.55	0.007 1428 5714 2857 15	1.54	5.21	6.08	113.6	5.91				3,991	19.2	Clear, red suspe nsion	No odor
10/10	09:51	0.65	0.025	1.52	5.22	5.83	109.8	6.03				3,783	19.2	Clear suspe nsion	No
10/10	09:54	0.7	0.025	1.54	5.22	5.84	109.1	6.05				3,796	19.2		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	Gamuda - Groundwater Monitoring Program		
Job No:	SC210108.03		
Recorded By:	Joy X		
Weather:	Cloudy		
Well No:	SMW_ENV083		
Date:	10/10/2022 08:58		
Lat / Long:	-33.82847,151.02337	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	Peristatic
Water Level Depth (WL in m BTOC)	0.27	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.91	Well Diameter (mm)	50
Height of Standing Water Column (m)	5.640000000000001	Well Annulus (mm)	100
Discharge Water Disposal Method		Minimum Purge Volume	59.22

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
10/10	09:13	0.5		0.545	5.04	11.24	173.7	2.64				7,241	19.1	Clear	
10/10	09:18	0.8	0.075		5.06	10.96	163.9	3.56				7,124	19	Clear	No odour
10/10	09:20	1.1	0.15	1.1	5.1	9.94	149.7	4.66				6,370	19.1	Red suspe nsion	No

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☑ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SMW WTP GWMP		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	SMW_ENV089		
Date:			
Lat / Long:	-33.8294,151.02291	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type		Well stick up (m): (above/below ground level)	
Well Material		Screen interval - Top (m BTOC)	
Well Head Condition		Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)		Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)		Well Diameter (mm)	
Height of Standing Water Column (m)		Well Annulus (mm)	
Discharge Water Disposal Method		Minimum Purge Volume	0

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	**Time**	**Purged**	**Rate**	**SWL**	**pH**	**EC**	**ORP**	**DO**	**DO**	**Tur**	**Sal**	**TDS**	**Temp**	**Colour**	**Odour**
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SMW WTP GWMP		
Job No:	SC210108.03		
Recorded By:	Murti P		
Weather:			
Well No:	CZ5_MW23		
Date:			
Lat / Long:	-33.82948,151.02292	**Photo1: Area**	**Photo 2: Bore condition**

CONSTRUCTION INFORMATION

Well Type	Monitor	Well stick up (m): (above/below ground level)	
Well Material	PVC	Screen interval - Top (m BTOC)	
Well Head Condition	Good	Screen interval - Bottom (m BTOC)	

WELL PURGING

Measured Levels		**Purge Method**	
LNAPL Level Depth (LL in m BTOC)		Method	
Water Level Depth (WL in m BTOC)	3.105	Pump Intake Depth (mBTOC)	
DNAPL Level Depth (DL in m BTOC)		**Minimum Purge Volume Required**	
Total Depth of Well (TD in m BTOC)	5.89	Well Diameter (mm)	
Height of Standing Water Column (m)		Well Annulus (mm)	
Discharge Water Disposal Method		Minimum Purge Volume	

FIELD PARAMETER MEASUREMENT

Purged dry?	☐ Yes	At L	☐ No

Date	Time	Purged	Rate	SWL	pH	EC	ORP	DO	DO	Tur	Sal	TDS	Temp	Colour	Odour
MM/DD	HH:MM	L		mBTOC		µS/cm	mV	ppm	% Sat	NTU			°C		
	16653 51480 000														

WELL SAMPLING

Other Observations				
Additional Comment				
Sampling Method:		**Sampled ?**	☐ Yes ☐ No	
Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate
Analysis/Bottles				
Comment				

APPENDIX F – LABORATORY DOCUMENTATION

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 300470

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	David Harris, Steve Rocks
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01 / SMW WTP GWMP**
Number of Samples	7 Water
Date samples received	14/07/2022
Date completed instructions received	14/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	22/07/2022
Date of Issue	27/07/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Josh Williams, Organics and LC Supervisor
Kyle Gavrily, Senior Chemist
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference	UNITS	300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference		ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	6	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	1,500	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	36	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	88	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	3	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	4	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	99	98	105	100	99
Surrogate toluene-d8	%	97	98	97	100	98
Surrogate 4-BFB	%	99	98	98	88	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	4,100	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	4,100	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	4,100	<10
Benzene	µg/L	<1	<1	<1	6	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	99	98	105	100	99
Surrogate toluene-d8	%	97	98	97	100	98
Surrogate 4-BFB	%	99	98	98	88	99

vTRH(C6-C10)/BTEXN in Water			
Our Reference		300470-6	300470-7
Your Reference	UNITS	TB	TS
Date Sampled		14/07/2022	14/07/2022
Type of sample		Water	Water
Date extracted	-	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022
TRH C_6 - C_9	µg/L	<10	[NA]
TRH C_6 - C_{10}	µg/L	<10	[NA]
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	[NA]
Benzene	µg/L	<1	93%
Toluene	µg/L	<1	97%
Ethylbenzene	µg/L	<1	114%
m+p-xylene	µg/L	<2	109%
o-xylene	µg/L	<1	109%
Naphthalene	µg/L	<1	[NA]
Surrogate Dibromofluoromethane	%	98	98
Surrogate toluene-d8	%	96	98
Surrogate 4-BFB	%	103	98

svTRH (C10-C40) in Water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	20/07/2022	20/07/2022	20/07/2022	20/07/2022	20/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	120	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	880	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	1,000	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	210	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	210	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	780	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	990	<50
Surrogate o-Terphenyl	%	90	88	85	117	89

PAHs in Water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	89	90	85	82	88

Organochlorine Pesticides in Water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	90	80	77	83

OP Pesticides in Water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	90	80	77	83

SVOC's in water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Phenol	µg/L	<2	<2	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	6	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	34	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	82	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	4	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	10	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference	UNITS	300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference		ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference	UNITS	300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference		ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	49	50	62	48	57
Surrogate Phenol-d_6	%	33	39	50	37	48
Surrogate Nitrobenzene-d_5	%	90	93	77	76	82
Surrogate 2-fluorobiphenyl	%	91	96	80	84	82
Surrogate 2,4,6-Tribromophenol	%	82	74	77	82	81
Surrogate *p*-Terphenyl-d_{14}	%	96	98	92	87	93

PFAS in Waters Extended						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	0.04	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	0.04	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	0.05	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.01	<0.01	<0.01	0.04	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	96	102	104	99	96
Surrogate $^{13}C_2$ *PFOA*	%	95	101	97	99	101
Extracted ISTD $^{13}C_3$ *PFBS*	%	102	105	104	107	107
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	102	111	120	113
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	100	99	115	116
Extracted ISTD $^{13}C_4$ *PFBA*	%	86	95	41	35	36

PFAS in Waters Extended						
Our Reference	UNITS	300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference		ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	97	103	69	79	68
Extracted ISTD $^{13}C_2$ *PFHxA*	%	98	99	85	109	89
Extracted ISTD $^{13}C_4$ *PFHpA*	%	105	105	96	135	109
Extracted ISTD $^{13}C_4$ *PFOA*	%	102	100	96	122	102
Extracted ISTD $^{13}C_5$ *PFNA*	%	108	103	94	121	106
Extracted ISTD $^{13}C_2$ *PFDA*	%	99	103	94	113	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	97	106	91	117	97
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	111	114	102	142	109
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	98	105	94	131	93
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	75	100	32	118	33
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	78	100	44	165	48
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	70	104	44	150	61
Extracted ISTD $^{13}C_8$ *FOSA*	%	97	107	90	79	97
Extracted ISTD d_3 *N MeFOSA*	%	102	107	112	107	116
Extracted ISTD d_5 *N EtFOSA*	%	101	102	106	115	112
Extracted ISTD d_7 *N MeFOSE*	%	110	106	113	117	115
Extracted ISTD d_9 *N EtFOSE*	%	102	99	106	114	109
Extracted ISTD d_3 *N MeFOSAA*	%	81	99	50	83	54
Extracted ISTD d_5 *N EtFOSAA*	%	82	106	54	109	50
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	0.04	<0.01
Total Positive PFOA & PFOS	µg/L	0.01	<0.01	<0.01	0.04	<0.01
Total Positive PFAS	µg/L	0.05	<0.01	<0.01	0.13	<0.01

HM in water - dissolved						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Aluminium-Dissolved	µg/L	<10	<10	20	30	140
Arsenic-Dissolved	µg/L	4	<1	5	8	4
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	1	<1	<1
Copper-Dissolved	µg/L	5	2	<1	<1	1
Iron-Dissolved	µg/L	880	10	310,000	17,000	12,000
Manganese-Dissolved	µg/L	110	13	820	310	1,600
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	2	<1	13	<1	2
Zinc-Dissolved	µg/L	43	8	370	<1	5

Speciated Arsenic						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Arsenobetaine (ASB)	µg/L	<1	<1	<1	<1	<1
Arsenious Acid, As (III)	µg/L	<1	<1	<1	<1	<1
Dimethylarsenic Acid (DMA)	µg/L	<1	<1	<1	<1	<1
Monomethylarsonic Acid (MMA)	µg/L	<1	<1	<1	<1	<1
Arsenic Acid, As (V)	µg/L	1	<1	<1	<1	<1

Acid Herbicides in Water						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022
Date analysed	-	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	72	68	62	64	76

Ion Balance						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Calcium - Dissolved	mg/L	100	18	380	240	340
Potassium - Dissolved	mg/L	11	9.2	140	26	26
Sodium - Dissolved	mg/L	810	220	5,700	340	5,300
Magnesium - Dissolved	mg/L	98	22	870	110	930
Hardness	mgCaCO 3 /L	660	130	4,500	1,000	4,700
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	280	290	190	1,400	490
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	280	290	190	1,400	490
Sulphate, SO4	mg/L	83	66	3,800	230	1,800
Chloride, Cl	mg/L	1,400	180	10,000	350	11,000
Ionic Balance	%	3.0	1.0	-3.0	-7.0	-3.0

Miscellaneous Inorganics						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Total Dissolved Solids (grav)	mg/L	2,700	970	25,000	2,100	24,000
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.050	<0.01	<0.050
Total Nitrogen in water	mg/L	0.9	0.3	2.6	22	0.9
NOx as N in water	mg/L	<0.005	0.01	<0.05	<0.005	<0.01
Ammonia as N in water	mg/L	0.39	0.018	1.9	16	0.79
Phosphate as P in water	mg/L	<0.005	0.005	<0.005	<0.005	<0.005

Metals in Waters - Acid extractable						
Our Reference		300470-1	300470-2	300470-3	300470-4	300470-5
Your Reference	UNITS	ENV_045	WTP_BH13	WTP_BH25	WTP_BH25_s	ENV_039
Date Sampled		14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Phosphorus - Total	mg/L	0.1	0.08	<0.05	0.1	<0.05

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Metals-031	Analysis of Speciated forms of Arsenic using LC separation followed by ICP-MS analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			21/07/2022	1	21/07/2022	21/07/2022		21/07/2022	[NT]
Date analysed	-			21/07/2022	1	21/07/2022	21/07/2022		21/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	111	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	107	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	1	99	99	0	102	[NT]
Surrogate toluene-d8	%		Org-023	99	1	97	97	0	100	[NT]
Surrogate 4-BFB	%		Org-023	98	1	99	98	1	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			21/07/2022	1	21/07/2022	21/07/2022		21/07/2022	[NT]
Date analysed	-			21/07/2022	1	21/07/2022	21/07/2022		21/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	107	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	107	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	108	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	1	99	99	0	102	[NT]
Surrogate toluene-d8	%		Org-023	99	1	97	97	0	100	[NT]
Surrogate 4-BFB	%		Org-023	98	1	99	98	1	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300470-2
Date extracted	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Date analysed	-			19/07/2022	1	20/07/2022	20/07/2022		19/07/2022	20/07/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	94	103
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	100	110
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	86	100
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	94	103
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	100	110
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	86	100
Surrogate o-Terphenyl	%		Org-020	87	1	90	86	5	87	88

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300470-3
Date extracted	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	78	74
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	77	75
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	74	72
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	92
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	82
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	89	91
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	71	71
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	82
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	101	1	89	85	5	96	91

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300470-3
Date extracted	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	84	84
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	85	85
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	85	87
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	91	95
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	84
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	90
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	88
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	90
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	92
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	84	92
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	1	83	83	0	93	85

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300470-3
Date extracted	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	94	91
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	79	79
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	83	83
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	114	120
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	94	94
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	78	80
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	78	84
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	1	83	83	0	93	85

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	41	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	83	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	77	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	70	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	76	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	90	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	85	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	54	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	82	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	79	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	80	[NT]
Anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	82	[NT]
Pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	89	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	1	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	1	<2	<2	0	83	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	84	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	99	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	88	[NT]
b-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	82	[NT]
g-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	81	[NT]
Aldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	93	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	1	<2	<2	0	88	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	1	<2	<2	0	88	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	90	[NT]
Endrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	84	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	1	<2	<2	0	70	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	1	<2	<2	0	86	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	1	<2	<2	0	89	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	77	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	1	<2	<2	0	73	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	1	<2	<2	0	91	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	88	[NT]
Fenthion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	1	<2	<2	0	76	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	1	<2	<2	0	78	[NT]
Phosalone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	56	1	49	48	2	57	[NT]
Surrogate Phenol-d_6	%		Org-022/025	44	1	33	37	11	40	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	80	1	90	86	5	89	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	86	1	91	87	4	85	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	75	1	82	76	8	83	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	86	1	96	94	2	97	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	115	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	112	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	116	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	114	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	120	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	112	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	112	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	132	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	124	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	113	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	107	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	103	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	132	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	84	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	82	[NT]	[NT]	[NT]	[NT]	78	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	80	[NT]	[NT]	[NT]	[NT]	83	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	107	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300470-2
Date prepared	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Date analysed	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	103	101
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	4	4	0	93	92
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	93	95
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	92	89
Copper-Dissolved	µg/L	1	Metals-022	<1	1	5	5	0	91	86
Iron-Dissolved	µg/L	10	Metals-022	<10	1	880	870	1	91	89
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	110	110	0	91	89
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	93	88
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	89	84
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	43	43	0	91	88

QUALITY CONTROL: Speciated Arsenic					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300470-5
Date prepared	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	19/07/2022
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	19/07/2022
Arsenobetaine (ASB)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	111	81
Arsenious Acid, As (III)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	101	#
Dimethylarsenic Acid (DMA)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	116	#
Monomethylarsonic Acid (MMA)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	114	72
Arsenic Acid, As (V)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	116	#

QUALITY CONTROL: Acid Herbicides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			27/07/2022	[NT]	[NT]	[NT]	[NT]	27/07/2022	[NT]
Date analysed	-			27/07/2022	[NT]	[NT]	[NT]	[NT]	27/07/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	60	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	66	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	74	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	72	[NT]	[NT]	[NT]	[NT]	68	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			14/07/2022	3	14/07/2022	14/07/2022		14/07/2022	[NT]
Date analysed	-			14/07/2022	3	14/07/2022	14/07/2022		14/07/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	380	[NT]		88	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	140	[NT]		85	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	5700	[NT]		84	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	870	[NT]		89	[NT]
Hardness	$mgCaCO_3/L$	3	Metals-020	[NT]	3	4500	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	190	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	190	[NT]		98	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	3	3800	4000	5	96	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	3	10000	9800	2	100	[NT]
Ionic Balance	%		Inorg-040	[NT]	3	-3.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300470-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	2700	[NT]		109	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	99	89
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.9	[NT]		113	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	97	97
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.39	0.39	0	92	80
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	92	103

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.1	0.1	0	113	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG: PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).
Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle.
Note: there is a possibility some elements may be underestimated.

Speciated Arsenic:
- Samples were analysed from unpreserved bottles, there is a possibility results are underestimates. The suggested preservation is field filtered HCl preserved bottles.
- # Poor spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the poor recovery was confirmed. This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

Acid Herbicides in Water analysed by Envirolab Services Melbourne. Report No. 32701

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	David Harris, Steve Rocks

Sample Login Details	
Your reference	SC210108.01 / SMW WTP GWMP
Envirolab Reference	300470
Date Sample Received	14/07/2022
Date Instructions Received	14/07/2022
Date Results Expected to be Reported	21/07/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	7 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water	SVOC's in water	PFAS in Waters Extended	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	HM in water - dissolved	Speciated Arsenic	Acid Herbicides in Water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	Total Dissolved Solids(grav)	Hexavalent Chromium, Cr6+	Total Nitrogen in water	NOx as N in water	Ammonia as N in water	Phosphate as P in water	Metals in Waters -Acid extractable
ENV_045	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WTP_BH13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WTP_BH25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WTP_BH25_s	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENV_039	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TB				✓																										
TS				✓																										

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

COC 14/7 18:39

ENVIROLAB GROUP

National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
02 9910 6200 | sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myaree, WA 6154
08 9317 2505 | lab@mpl.com.au

Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
03 9763 2500 | melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
08 7087 6800 | adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
07 3266 9532 | brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
08 8967 1201 | darwin@envirolab.com.au

CHAIN OF CUSTODY FORM - Client

Company:	Epic Environmental
Contact Person:	Steve Rocks
Project Mgr:	David Harris
Sampler:	SR, MP, JX
Address:	Suite 5, Level 9, 189 Kent Street, Sydney, NSW, 2000
Phone:	
Mob:	0414 776 988
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au

Client Project Name/Number/Site etc (ie report title): SMW WTP GWMP / SC210108.01

PO No. (if applicable):

Envirolab Quote No. :

Date results required:

Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ☑ Esdat ☐ Equis

Lab Comments:

Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Combo 5b	Ionic balance	TDS	CrVI	Nutrient suite	Phenoxy acid herbicides	VOC / SVOC	PFAS	Arsenic Speciation	BTEX								Comments: Provide as much information about the sample as you can
1	ENV_045		14/07/2022 09:15		X	X	X	X	X	X	X	X	X									Metals to test: Al, As, Cd, Cr, Cu, Hg, Pb, Ni, Zn, Mn, Fe
2	WTP_BH13		14/07/2022 11:00		X	X	X	X	X	X	X	X	X									
3	WTP_BH25		14/07/2022 14:00		X	X	X	X	X	X	X	X	X									
4	WTP_BH25_s		14/07/2022 14:00		X	X	X	X	X	X	X	X	X									
5	ENV_039		14/07/2022 16:00		X	X	X	X	X	X	X	X	X									
6	TB		14/07/2022											X								
7	TS		14/07/2022											X								

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company):		Received by (Company): ELS SYD	Lab Use Only	
Print Name:	Steve Rocks	Print Name: Christina	Job number: 300470	Cooling: Ice / Ice pack / None
Date & Time:	14/07/2022 17:45	Date & Time: 14/07/22 1730	Temperature: 10 °C	Security seal: Intact / Broken / None
Signature:	[signature]	Signature: [signature]	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 300546

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, SMW WTP GWMP**
Number of Samples	7 Water
Date samples received	13/07/2022
Date completed instructions received	13/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	20/07/2022
Date of Issue	21/07/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Nick Sarlamis, Assistant Operation Manager
Phalak Inthakesone, Organics Development Manager, Sydney
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference	UNITS	300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference		ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	104	98	100	100	101
Surrogate toluene-d8	%	98	98	99	99	99
Surrogate 4-BFB	%	101	100	100	99	99

SVOC's in water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Phenol	µg/L	<2	<2	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	53	55	58	57	45
Surrogate Phenol-d_6	%	38	38	52	45	42
Surrogate Nitrobenzene-d_5	%	88	88	89	86	90
Surrogate 2-fluorobiphenyl	%	91	88	92	90	89
Surrogate 2,4,6-Tribromophenol	%	80	85	83	85	72
Surrogate *p*-Terphenyl-d_{14}	%	100	102	104	102	102

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	104	98	100	100	101
Surrogate toluene-d8	%	98	98	99	99	99
Surrogate 4-BFB	%	101	100	100	99	99

vTRH(C6-C10)/BTEXN in Water			
Our Reference		300546-6	300546-7
Your Reference	UNITS	Trip Spike 01	Trip Blank 01
Date Sampled		13/07/2022	13/07/2022
Type of sample		Water	Water
Date extracted	-	18/07/2022	18/07/2022
Date analysed	-	19/07/2022	19/07/2022
Benzene	µg/L	100%	<1
Toluene	µg/L	99%	<1
Ethylbenzene	µg/L	103%	<1
m+p-xylene	µg/L	109%	<2
o-xylene	µg/L	105%	<1
Naphthalene	µg/L	[NA]	<1
Surrogate Dibromofluoromethane	%	101	103
Surrogate toluene-d8	%	100	99
Surrogate 4-BFB	%	98	98

svTRH (C10-C40) in Water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	20/07/2022	20/07/2022	20/07/2022	20/07/2022	20/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	91	92	102	90	91

PAHs in Water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	96	100	93	93	94

Organochlorine Pesticides in Water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	87	90	93	91	88

OP Pesticides in Water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	87	90	93	91	88

Ion Balance						
Our Reference	UNITS	300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference		ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Calcium - Dissolved	mg/L	120	270	930	190	120
Potassium - Dissolved	mg/L	11	15	76	15	10
Sodium - Dissolved	mg/L	2,000	4,700	3,600	3,800	1,900
Magnesium - Dissolved	mg/L	330	810	730	700	330
Hardness	mgCaCO 3 /L	1,600	4,000	5,400	3,300	1,600
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	200	250	710	77	190
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	200	250	710	77	190
Sulphate, SO4	mg/L	900	1,200	740	1,000	900
Chloride, Cl	mg/L	3,900	9,900	9,300	8,400	3,900
Ionic Balance	%	-4.0	-4.0	-4.0	-6.0	-7.0

All metals in water-dissolved						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Aluminium-Dissolved	μg/L	<10	<10	40	<10	<10
Arsenic-Dissolved	μg/L	<1	1	<1	3	<1
Cadmium-Dissolved	μg/L	0.1	<0.1	<0.1	<0.1	0.2
Chromium-Dissolved	μg/L	<1	<1	<1	<1	<1
Copper-Dissolved	μg/L	1	1	860	290	1
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead-Dissolved	μg/L	<1	<1	<1	<1	<1
Manganese-Dissolved	μg/L	1,100	500	660	230	1,000
Nickel-Dissolved	μg/L	7	8	2	25	6
Zinc-Dissolved	μg/L	6	23	12	39	4

Miscellaneous Inorganics						
Our Reference	UNITS	300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference		ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
pH	pH Units	6.1	6.0	6.3	5.5	6.1
Electrical Conductivity	µS/cm	13,000	29,000	27,000	24,000	13,000
Oxidation Reduction Potential*	mV	101	-15	171	123	106
Dissolved Oxygen*	mg/L	9.1	8.3	7.8	6.3	8.1
Total Dissolved Solids (grav)	mg/L	9,100	21,000	23,000	18,000	8,900
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
TKN in water	mg/L	0.2	1	8.2	1.4	0.2
Total Nitrogen in water	mg/L	1.4	1	8.2	1.4	1.4
Nitrate as N in water	mg/L	1.0	<0.005	<0.005	0.007	1.0
Nitrite as N in water	mg/L	0.12	<0.005	<0.005	0.008	0.12
Ammonia as N in water	mg/L	0.18	1.1	7.1	1.4	0.19
Phosphate as P in water	mg/L	0.007	<0.005	<0.005	<0.005	0.007

Metals in Waters - Acid extractable						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	20/07/2022	20/07/2022	20/07/2022	20/07/2022	20/07/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Acid Herbicides in Water						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	90	90	94	94	90

PFAS in Waters Extended						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.01	<0.01	<0.01	<0.01	0.01
Perfluoroheptanoic acid	µg/L	<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
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	108	103	97	99	98
Surrogate $^{13}C_2$ *PFOA*	%	95	102	96	95	98
Extracted ISTD $^{13}C_3$ *PFBS*	%	91	87	85	85	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	97	99	99	102	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	89	87	90	91	94
Extracted ISTD $^{13}C_4$ *PFBA*	%	63	60	60	60	60

PFAS in Waters Extended						
Our Reference		300546-1	300546-2	300546-3	300546-4	300546-5
Your Reference	UNITS	ENV_293	WTP_BH18	SMW_BH010	ENV_042	QA1
Date Sampled		13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ PFPeA	%	71	64	64	63	69
Extracted ISTD $^{13}C_2$ PFHxA	%	83	76	76	76	83
Extracted ISTD $^{13}C_4$ PFHpA	%	80	76	73	76	81
Extracted ISTD $^{13}C_4$ PFOA	%	78	67	71	69	74
Extracted ISTD $^{13}C_5$ PFNA	%	80	70	71	69	76
Extracted ISTD $^{13}C_2$ PFDA	%	87	79	79	76	84
Extracted ISTD $^{13}C_2$ PFUnDA	%	93	74	75	74	85
Extracted ISTD $^{13}C_2$ PFDoDA	%	79	65	67	64	74
Extracted ISTD $^{13}C_2$ PFTeDA	%	68	53	58	49	65
Extracted ISTD $^{13}C_2$ 4:2FTS	%	46	36	35	38	45
Extracted ISTD $^{13}C_2$ 6:2FTS	%	42	36	34	36	44
Extracted ISTD $^{13}C_2$ 8:2FTS	%	52	41	42	42	48
Extracted ISTD $^{13}C_8$ FOSA	%	74	73	72	68	73
Extracted ISTD d_3 N MeFOSA	%	96	94	94	93	95
Extracted ISTD d_5 N EtFOSA	%	102	97	96	92	99
Extracted ISTD d_7 N MeFOSE	%	101	100	97	104	99
Extracted ISTD d_9 N EtFOSE	%	103	94	95	96	98
Extracted ISTD d_3 N MeFOSAA	%	54	44	46	48	54
Extracted ISTD d_5 N EtFOSAA	%	59	43	46	46	55
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.01	<0.01	<0.01	<0.01	0.01

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			18/07/2022	[NT]	[NT]	[NT]	[NT]	18/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate toluene-d8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	41	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	83	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	77	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	70	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	76	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	85	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	53	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	82	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	79	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	80	[NT]
Anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	82	[NT]
Pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	89	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	83	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	84	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	99	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
b-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	82	[NT]
g-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Aldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	83	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	84	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	70	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	89	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	77	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	73	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Fenthion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	76	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	78	[NT]
Phosalone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	56	[NT]	[NT]	[NT]	[NT]	57	[NT]
Surrogate Phenol-d_6	%		Org-022/025	44	[NT]	[NT]	[NT]	[NT]	40	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	80	[NT]	[NT]	[NT]	[NT]	89	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	86	[NT]	[NT]	[NT]	[NT]	85	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	75	[NT]	[NT]	[NT]	[NT]	83	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	86	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			18/07/2022	[NT]	[NT]	[NT]	[NT]	18/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	112	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	112	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	115	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate toluene-d8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	87	[NT]	[NT]	[NT]	[NT]	87	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	77	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	74	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	101	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	84	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	82	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	82	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	84	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	94	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	79	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	83	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	94	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	78	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	78	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300546-2
Date prepared	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	120	120	0	111	#
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	11	10	10	101	84
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	2000	2000	0	98	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	330	330	0	113	#
Hardness	$mgCaCO_3/L$	3	Metals-020	<3	1	1600	1700	6	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	200	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	200	[NT]		107	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	900	[NT]		96	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	3900	[NT]		104	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	-4.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300546-3
Date prepared	-			[NT]	2	15/07/2022	15/07/2022		[NT]	15/07/2022
Date analysed	-			[NT]	2	15/07/2022	15/07/2022		[NT]	15/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	270	[NT]		[NT]	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	15	[NT]		[NT]	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	4700	[NT]		[NT]	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	810	[NT]		[NT]	[NT]
Hardness	$mgCaCO_3/L$	3	Metals-020	[NT]	2	4000	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	250	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	250	[NT]		[NT]	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	[NT]	2	1200	1200	0	[NT]	#
Chloride, Cl	mg/L	1	Inorg-081	[NT]	2	9900	9900	0	[NT]	#
Ionic Balance	%		Inorg-040	[NT]	2	-4.0	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300546-2
Date prepared	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	20/07/2022
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	20/07/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	87	91
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	90
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	0.1	0.1	0	98	92
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	92	84
Copper-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	96	76
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	[NT]		96	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	93	79
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	1100	1000	10	91	#
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	7	7	0	96	78
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	6	6	0	97	79

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300546-3
Date prepared	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
pH	pH Units		Inorg-001	[NT]	1	6.1	[NT]		100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	13000	[NT]		106	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	101	[NT]		91	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	[NT]	1	9.1	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	9100	[NT]		98	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	[NT]		118	102
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.2	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.4	1.4	0	105	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	1.0	[NT]		99	86
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.12	[NT]		91	109
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.18	[NT]		96	77
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.007	[NT]		83	85

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	2	15/07/2022	15/07/2022		[NT]	[NT]
Date analysed	-			[NT]	2	15/07/2022	15/07/2022		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	2	6.0	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	2	29000	[NT]		[NT]	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	2	-15	[NT]		[NT]	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	[NT]	2	8.3	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	2	21000	[NT]		[NT]	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	[NT]	2	<0.001	<0.001	0	[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	2	1	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	2	1	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	2	<0.005	<0.005	0	[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	2	<0.005	<0.005	0	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	2	1.1	1.1	0	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	2	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Date analysed	-			20/07/2022	1	20/07/2022	20/07/2022		20/07/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	103	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	78	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	82	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	94	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	88	[NT]	[NT]	[NT]	[NT]	92	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	106	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	104	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	100	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	110	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	105	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	103	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	108	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	110	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	107	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	102	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	117	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	99	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	104	1	108	100	8	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	1	95	97	2	95	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	1	91	90	1	97	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	93	1	97	102	5	94	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	95	1	89	93	4	98	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	101	1	63	62	2	98	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	98	1	71	70	1	97	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	99	1	83	81	2	98	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	104	1	80	80	0	102	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	100	1	78	74	5	102	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	106	1	80	76	5	104	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	99	1	87	89	2	106	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	102	1	93	85	9	100	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	96	1	79	76	4	95	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	68	1	68	67	1	72	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	100	1	46	45	2	102	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	107	1	42	45	7	115	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	120	1	52	53	2	127	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	106	1	74	74	0	105	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	98	1	96	95	1	98	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	1	102	99	3	100	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	103	1	101	101	0	98	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	100	1	103	97	6	104	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	110	1	54	53	2	118	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	118	1	59	56	5	121	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

ION_BALANCE: # Percent recovery is not applicable due to the high concentration of the analyte/s in the sample/s. However an acceptable recovery was obtained for the LCS.

All metals in water-dissolved - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

PFAS: For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Acid Herbicides in Water analysed by Envirolab Melbourne. Report No. 32569

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks

Sample Login Details	
Your reference	SC210108.01, SMW WTP GWMP
Envirolab Reference	300546
Date Sample Received	13/07/2022
Date Instructions Received	13/07/2022
Date Results Expected to be Reported	20/07/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	7 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	4
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Not received- TS/TB

Speciated As will only be tested if total As positive

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
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Sample ID	VOCs in water	SVOC's in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	All metals in water - total	All metals in water-dissolved	pH	Electrical Conductivity	Oxidation Reduction Potential*	Dissolved Oxygen*	Total Dissolved Solids(grav)	Trivalent Chromium	Hexavalent Chromium, Cr6+Low Level	TKN in water	Total Nitrogen in water	Nitrate as N in water	Nitrite as N in water	Ammonia as N in water	Phosphate as P in water	Metals in Waters -Acid extractable	Acid Herbicides in Water	PFAS in Waters Extended
ENV_293	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WTP_BH18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_BH010	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENV_042	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
QA1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trip Spike 01			✓																																		
Trip Blank 01			✓																																		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt. Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 300546
Date Received: 13/07/22.
Time Received: 1745.
Received By: VC.
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

COC 13/7 20:30

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01	Lab:	Envirolab
Project/Site:	SMW-WTP GWMP	Lab Quote No:	
Project Manager:	Steve Rocks	Lab Batch No:	
Sampled By:	SR, MP, JX	Turnaround time:	
Phone:	0414 776 988	Sample Disposal After:	
Page:	1 of 1		
Number of Eskies:	1		

CONTAINER TYPE & PRESERVATIVE / ANALYSIS REQUIRED

#	SAMPLE ID	Lab ID	DATE/TIME	MATRIX	Soil / Solid: 150-250ml Glass Jar	Soil / Solid: 200ml Plastic Jar	Soil / Solid: - Plastic bag	Water / Liquid: 2x 40ml Amber Vial	Water / Liquid: 100-500ml Amber Bottle	Water / Liquid: 60ml Metals	Water / Liquid: 60ml Nutrients	Water / Liquid: 250-500ml Plastic (Unpreserved)	Water / Liquid: 60-250ml Plastic (PFAS)	Other	WQ Parameters: pH, EC, ORP, DO, TDS, Alkalinity, Hardness	Major Ions	Extended Metals - UltraTrace: Al, As III, As V, Cd, Cr III, Cr VI, Cu, Hg,	Nutrients (Trace)	TRH + BTEXN	PAH	OCP / OPP	Herbicides	VOC / SVOC	PFAS	BTEXN			HOLD
1	ENV_293	1	13/07/2022 10:30	W											X	X	X	X	X	X	X	X	X	X				
2	WTP_BH18	2	13/07/2022 12:00	W											X	X	X	X	X	X	X	X	X	X				
3	SMW_BH010	3	13/07/2022 16:00	W											X	X	X	X	X	X	X	X	X	X				
4	ENV_042	4	13/07/2022 16:30	W											X	X	X	X	X	X	X	X	X	X				
5	QA1	5	13/07/2022	W											X	X	X	X	X	X	X	X	X	X				
6	Trip Spike 01	~~NR~~ 6	13/07/2022	W																					X			
7	Trip Blank 01	~~NR~~. 7	13/07/2022	W																					X			
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												
17																												
18																												
19																												
20																												
				TOTALS																								

Relinquished By: NAME srocks (srocks@epicenvironmental.com.au) SIGNATURE DATE 13-Jul-22	Received By: NAME Victoria Chan SIGNATURE DATE 13/07/22	Custody Seals Intact Y N	
		Samples Received Chilled Y N	
		Method of Shipment	

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 300573

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	David Harris, Steve Rocks
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01 / SMW WTP GWMP**
Number of Samples	8 Water
Date samples received	15/07/2022
Date completed instructions received	15/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	22/07/2022
Date of Issue	26/07/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Hannah Nguyen, Metals Supervisor
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Nick Sarlamis, Assistant Operation Manager
Phalak Inthakesone, Organics Development Manager, Sydney
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	2	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	99	104	97	97	106
Surrogate toluene-d8	%	98	99	98	99	99
Surrogate 4-BFB	%	100	100	99	99	99

VOCs in water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	18/07/2022
Date analysed	-	19/07/2022
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	98
Surrogate toluene-d8	%	99
Surrogate 4-BFB	%	99

SVOC's in water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Phenol	µg/L	<2	<2	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	54	51	49	49	43
Surrogate Phenol-d_6	%	46	45	39	41	39
Surrogate Nitrobenzene-d_5	%	82	79	81	78	74
Surrogate 2-fluorobiphenyl	%	93	88	91	91	84
Surrogate 2,4,6-Tribromophenol	%	76	72	71	78	63
Surrogate *p*-Terphenyl-d_{14}	%	93	88	88	87	82

SVOC's in water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	21/07/2022
Date analysed	-	22/07/2022
Phenol	µg/L	<2
Bis (2-chloroethyl) ether	µg/L	<5
2-Chlorophenol	µg/L	<2
1,3-Dichlorobenzene	µg/L	<2
1,4-Dichlorobenzene	µg/L	<2
2-Methylphenol	µg/L	<2
1,2-Dichlorobenzene	µg/L	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5
3/4-Methylphenol	µg/L	<4
N-nitrosodi-n-propylamine	µg/L	<5
Hexachloroethane	µg/L	<2
Nitrobenzene	µg/L	<5
Isophorone	µg/L	<5
2,4-Dimethylphenol	µg/L	<2
2-Nitrophenol	µg/L	<2
bis (2-Chloroethoxy) methane	µg/L	<5
2,4-Dichlorophenol	µg/L	<2
1,2,4-Trichlorobenzene	µg/L	<2
Naphthalene	µg/L	<2
4-Chloroaniline	µg/L	<5
4-Chloro-3-methylphenol	µg/L	<10
Hexachlorobutadiene	µg/L	<2
2-Methylnaphthalene	µg/L	<2
Hexachlorocyclopentadiene	µg/L	<5
2,4,6-Trichlorophenol	µg/L	<2
2,4,5-Trichlorophenol	µg/L	<2
2-Chloronaphthalene	µg/L	<2
2-Nitroaniline	µg/L	<5
Dimethyl phthalate	µg/L	<10
2,6-Dinitrotoluene	µg/L	<5
Acenaphthylene	µg/L	<2
3-Nitroaniline	µg/L	<5
Acenaphthene	µg/L	<2
2,4-Dinitrophenol	µg/L	<20

SVOC's in water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
4-Nitrophenol	µg/L	<20
Dibenzofuran	µg/L	<5
Diethylphthalate	µg/L	<10
4-Chlorophenylphenylether	µg/L	<5
4-Nitroaniline	µg/L	<5
Fluorene	µg/L	<2
2-methyl-4,6-dinitrophenol	µg/L	<20
Azobenzene	µg/L	<5
4-Bromophenylphenylether	µg/L	<5
Hexachlorobenzene	µg/L	<2
Pentachlorophenol	µg/L	<10
Phenanthrene	µg/L	<2
Anthracene	µg/L	<2
Carbazole	µg/L	<5
Di-n-butylphthalate	µg/L	<10
Fluoranthene	µg/L	<2
Pyrene	µg/L	<2
Butylbenzylphthalate	µg/L	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50
Benzo(a)anthracene	µg/L	<2
Chrysene	µg/L	<2
Di-n-octylphthalate	µg/L	<10
Benzo(b,j+k)fluoranthene	µg/L	<4
Benzo(a)pyrene	µg/L	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2
Dibenzo(a,h)anthracene	µg/L	<2
Benzo(g,h,i)perylene	µg/L	<2
Ethylmethanesulfonate	µg/L	<5
Aniline	µg/L	<5
Pentachloroethane	µg/L	<2
Benzyl alcohol	µg/L	<5
Acetophenone	µg/L	<5
N-nitrosomorpholine	µg/L	<5
N-nitrosopiperidine	µg/L	<5
2,6-Dichlorophenol	µg/L	<2
Hexachloropropene-1	µg/L	<2
N-nitroso-n-butylamine	µg/L	<5

SVOC's in water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Safrole	µg/L	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2
Trans/Cis-iso-safrole	µg/L	<5
1,3-Dinitrobenzene	µg/L	<5
Pentachlorobenzene	µg/L	<2
1-Naphthylamine	µg/L	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2
2-Naphthylamine	µg/L	<5
5-Nitro-o-toluidine	µg/L	<5
Diphenylamine	µg/L	<5
Phenacetin	µg/L	<5
Pentachloronitrobenzene	µg/L	<5
Dinoseb	µg/L	<10
Methapyrilene	µg/L	<10
p-Dimethylaminoazobenzene	µg/L	<5
2-Acetylaminofluorene	µg/L	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2
3-Methylcholanthrene	µg/L	<2
a-BHC	µg/L	<2
b-BHC	µg/L	<2
g-BHC	µg/L	<2
d-BHC	µg/L	<2
Heptachlor	µg/L	<2
Aldrin	µg/L	<2
Heptachlor Epoxide	µg/L	<2
g-Chlordane	µg/L	<2
a-Chlordane	µg/L	<2
Endosulfan I	µg/L	<2
p,p'-DDE	µg/L	<2
Dieldrin	µg/L	<2
Endrin	µg/L	<2
p,p'-DDD	µg/L	<2
Endosulfan II	µg/L	<2
Endrin Aldehyde	µg/L	<2
p,p'-DDT	µg/L	<2
Endosulfan Sulphate	µg/L	<2
Endrin Ketone	µg/L	<2

SVOC's in water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Methoxychlor	μg/L	<2
Dichlorvos	μg/L	<2
Mevinphos	μg/L	<2
Phorate	μg/L	<2
Dimethoate	μg/L	<2
Diazinon (dimpylate)	μg/L	<2
Disulfoton	μg/L	<2
Chloropyriphos-methyl	μg/L	<2
Parathion-methyl	μg/L	<2
Ronnel (fenchlorphos)	μg/L	<2
Fenitrothion	μg/L	<2
Malathion (Maldison)	μg/L	<2
Chloropyriphos	μg/L	<2
Fenthion	μg/L	<2
Parathion (parathion-ethyl)	μg/L	<2
Bromophos Ethyl	μg/L	<2
Methidathion	μg/L	<2
Fenamiphos (Phenamiphos)	μg/L	<2
Ethion	μg/L	<2
Phosalone	μg/L	<2
Azinphos methyl (Guthion)	μg/L	<2
Coumaphos (Co-Ral)	μg/L	<2
Surrogate 2-fluorophenol	%	47
Surrogate Phenol-d_6	%	30
Surrogate Nitrobenzene-d_5	%	79
Surrogate 2-fluorobiphenyl	%	88
Surrogate 2,4,6-Tribromophenol	%	72
Surrogate *p*-Terphenyl-d_{14}	%	89

PFAS in Waters Extended						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	0.02	<0.01	0.02
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.05	<0.01	0.04
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	0.02	<0.01	0.02
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	0.05	<0.02	0.05
Perfluoropentanoic acid	µg/L	<0.02	<0.02	0.02	<0.02	0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	0.02	<0.01	0.02
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	0.02	<0.01	0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.02	<0.01	0.02
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	99	99	96	101	98
Surrogate $^{13}C_2$ PFOA	%	96	98	102	95	101
Extracted ISTD $^{13}C_3$ PFBS	%	87	85	87	89	88
Extracted ISTD $^{18}O_2$ PFHxS	%	101	104	106	103	100
Extracted ISTD $^{13}C_4$ PFOS	%	93	90	99	97	96
Extracted ISTD $^{13}C_4$ PFBA	%	58	57	79	78	80

PFAS in Waters Extended						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	64	62	82	71	82
Extracted ISTD $^{13}C_2$ *PFHxA*	%	75	74	94	84	96
Extracted ISTD $^{13}C_4$ *PFHpA*	%	73	73	97	86	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	66	67	87	82	91
Extracted ISTD $^{13}C_5$ *PFNA*	%	71	67	89	82	93
Extracted ISTD $^{13}C_2$ *PFDA*	%	74	76	100	92	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	78	71	89	83	99
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	60	62	87	78	85
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	52	56	68	67	70
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	35	36	76	52	82
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	32	33	69	52	81
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	39	33	75	53	81
Extracted ISTD $^{13}C_8$ *FOSA*	%	71	69	85	78	87
Extracted ISTD d_3 *N MeFOSA*	%	94	97	101	97	100
Extracted ISTD d_5 *N EtFOSA*	%	93	97	103	97	103
Extracted ISTD d_7 *N MeFOSE*	%	98	98	105	106	103
Extracted ISTD d_9 *N EtFOSE*	%	91	98	102	101	101
Extracted ISTD d_3 *N MeFOSAA*	%	43	43	67	56	71
Extracted ISTD d_5 *N EtFOSAA*	%	42	44	69	61	68
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.07	<0.01	0.07
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.04	<0.01	0.05
Total Positive PFAS	µg/L	<0.01	<0.01	0.22	<0.01	0.22

PFAS in Waters Extended		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date prepared	-	19/07/2022
Date analysed	-	19/07/2022
Perfluorobutanesulfonic acid	µg/L	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02
Perfluorobutanoic acid	µg/L	<0.02
Perfluoropentanoic acid	µg/L	<0.02
Perfluorohexanoic acid	µg/L	<0.01
Perfluoroheptanoic acid	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
Perfluorononanoic acid	µg/L	<0.01
Perfluorodecanoic acid	µg/L	<0.02
Perfluoroundecanoic acid	µg/L	<0.02
Perfluorododecanoic acid	µg/L	<0.05
Perfluorotridecanoic acid	µg/L	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5
4:2 FTS	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.02
10:2 FTS	µg/L	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	99
Surrogate $^{13}C_2$ *PFOA*	%	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	97
Extracted ISTD $^{13}C_4$ *PFBA*	%	102

PFAS in Waters Extended		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	96
Extracted ISTD $^{13}C_2$ *PFHxA*	%	102
Extracted ISTD $^{13}C_4$ *PFHpA*	%	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	98
Extracted ISTD $^{13}C_5$ *PFNA*	%	100
Extracted ISTD $^{13}C_2$ *PFDA*	%	104
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	102
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	93
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	73
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	99
Extracted ISTD $^{13}C_8$ *FOSA*	%	99
Extracted ISTD d_3 *N MeFOSA*	%	100
Extracted ISTD d_5 *N EtFOSA*	%	99
Extracted ISTD d_7 *N MeFOSE*	%	107
Extracted ISTD d_9 *N EtFOSE*	%	101
Extracted ISTD d_3 *N MeFOSAA*	%	95
Extracted ISTD d_5 *N EtFOSAA*	%	96
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01
Total Positive PFAS	µg/L	<0.01

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	2	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	99	104	97	97	106
Surrogate toluene-d8	%	98	99	98	99	99
Surrogate 4-BFB	%	100	100	99	99	99

vTRH(C6-C10)/BTEXN in Water				
Our Reference		300573-6	300573-7	300573-8
Your Reference	UNITS	TB	TS	R1
Date Sampled		15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water
Date extracted	-	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022
TRH C_6 - C_9	µg/L	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	[NA]	<10
Benzene	µg/L	<1	92%	<1
Toluene	µg/L	<1	95%	<1
Ethylbenzene	µg/L	<1	109%	<1
m+p-xylene	µg/L	<2	109%	<2
o-xylene	µg/L	<1	104%	<1
Naphthalene	µg/L	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	99	99	98
Surrogate toluene-d8	%	98	98	99
Surrogate 4-BFB	%	99	100	99

svTRH (C10-C40) in Water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	380	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	380	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	390	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	390	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	390	<50
Surrogate o-Terphenyl	%	98	94	91	91	93

svTRH (C10-C40) in Water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	21/07/2022
Date analysed	-	22/07/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	93

PAHs in Water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	83	84	84	84

PAHs in Water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	21/07/2022
Date analysed	-	21/07/2022
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate p-Terphenyl-d14	%	86

Organochlorine Pesticides in Water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	83	81	80	81

Organochlorine Pesticides in Water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	21/07/2022
Date analysed	-	21/07/2022
alpha-BHC	µg/L	<0.2
HCB	µg/L	<0.2
beta-BHC	µg/L	<0.2
gamma-BHC	µg/L	<0.2
Heptachlor	µg/L	<0.2
delta-BHC	µg/L	<0.2
Aldrin	µg/L	<0.2
Heptachlor Epoxide	µg/L	<0.2
gamma-Chlordane	µg/L	<0.2
alpha-Chlordane	µg/L	<0.2
Endosulfan I	µg/L	<0.2
pp-DDE	µg/L	<0.2
Dieldrin	µg/L	<0.2
Endrin	µg/L	<0.2
Endosulfan II	µg/L	<0.2
pp-DDD	µg/L	<0.2
Endrin Aldehyde	µg/L	<0.2
pp-DDT	µg/L	<0.2
Endosulfan Sulphate	µg/L	<0.2
Methoxychlor	µg/L	<0.2
Surrogate TCMX	%	85

OP Pesticides in Water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	83	81	80	81

OP Pesticides in Water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	21/07/2022
Date analysed	-	21/07/2022
Dichlorvos	µg/L	<0.2
Dimethoate	µg/L	<0.2
Diazinon	µg/L	<0.2
Chlorpyriphos-methyl	µg/L	<0.2
Ronnel	µg/L	<0.2
Fenitrothion	µg/L	<0.2
Malathion	µg/L	<0.2
Chlorpyriphos	µg/L	<0.2
Parathion	µg/L	<0.2
Bromophos ethyl	µg/L	<0.2
Ethion	µg/L	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2
Surrogate TCMX	%	85

HM in water - dissolved						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Aluminium-Dissolved	µg/L	30	10	<10	<10	<10
Arsenic-Dissolved	µg/L	5	<1	2	3	2
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	1	<1	<1	<1
Iron-Dissolved	µg/L	12,000	80	7,700	20	7,800
Manganese-Dissolved	µg/L	3,200	2,000	1,400	640	1,400
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	16	25	2	16	2
Zinc-Dissolved	µg/L	18	50	4	4	5

HM in water - dissolved		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date prepared	-	21/07/2022
Date analysed	-	21/07/2022
Aluminium-Dissolved	µg/L	<10
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Iron-Dissolved	µg/L	<10
Manganese-Dissolved	µg/L	<5
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	1

Speciated Arsenic						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Arsenobetaine (ASB)	µg/L	<1	<1	<1	<1	<1
Arsenious Acid, As (III)	µg/L	<1	<1	<1	2	<1
Dimethylarsenic Acid (DMA)	µg/L	<1	<1	<1	<1	<1
Monomethylarsonic Acid (MMA)	µg/L	<1	<1	<1	<1	<1
Arsenic Acid, As (V)	µg/L	<1	<1	<1	<1	<1

Speciated Arsenic		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date prepared	-	19/07/2022
Date analysed	-	19/07/2022
Arsenobetaine (ASB)	µg/L	<1
Arsenious Acid, As (III)	µg/L	<1
Dimethylarsenic Acid (DMA)	µg/L	<1
Monomethylarsonic Acid (MMA)	µg/L	<1
Arsenic Acid, As (V)	µg/L	<1

Acid Herbicides in Water						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	70	72	70	74	74

Acid Herbicides in Water		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date extracted	-	25/07/2022
Date analysed	-	25/07/2022
Clopyralid	µg/L	<1
3,5-Dichlorobenzoic acid	µg/L	<1
o-chlorophenoxy acetic acid	µg/L	<1
4-CPA	µg/L	<1
Dicamba	µg/L	<1
MCPP	µg/L	<1
MCPA	µg/L	<1
Dichlorprop	µg/L	<1
2,4-D	µg/L	<1
Bromoxynil	µg/L	<1
Triclopyr	µg/L	<1
2,4,5-TP	µg/L	<1
2,4,5-T	µg/L	<1
MCPB	µg/L	<1
Dinoseb	µg/L	<2
2,4-DB	µg/L	<1
Ioxynil	µg/L	<2
Picloram	µg/L	<2
Acifluorfen	µg/L	<4
2,4,6-T	µg/L	<1
2,6-D	µg/L	<1
Fluroxypyr	µg/L	<2
Chloramben	µg/L	<2
Bentazon	µg/L	<2
Surrogate 2.4- DCPA	%	70

Ion Balance						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Calcium - Dissolved	mg/L	770	570	36	260	36
Potassium - Dissolved	mg/L	23	16	19	37	19
Sodium - Dissolved	mg/L	6,000	6,100	220	1,200	220
Magnesium - Dissolved	mg/L	950	1,400	66	220	66
Hardness	mgCaCO 3 /L	5,800	7,200	360	1,600	360
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	580	310	230	850	250
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	580	310	230	850	250
Sulphate, SO4	mg/L	980	1,600	300	26	310
Chloride, Cl	mg/L	11,000	12,000	220	2,500	240
Ionic Balance	%	4.0	3.0	0	-3.0	-2.0

Ion Balance		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date prepared	-	18/07/2022
Date analysed	-	18/07/2022
Calcium - Dissolved	mg/L	<0.5
Potassium - Dissolved	mg/L	<0.5
Sodium - Dissolved	mg/L	0.9
Magnesium - Dissolved	mg/L	<0.5
Hardness	mgCaCO 3 /L	<3
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	<5
Carbonate Alkalinity as $CaCO_3$	mg/L	<5
Total Alkalinity as $CaCO_3$	mg/L	<5
Sulphate, SO4	mg/L	<1
Chloride, Cl	mg/L	<1
Ionic Balance	%	100

Miscellaneous Inorganics						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Total Dissolved Solids (grav)	mg/L	21,000	29,000	1,100	5,400	1,100
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Total Nitrogen in water	mg/L	1.2	0.1	0.4	2.4	0.4
NOx as N in water	mg/L	0.1	0.006	0.02	0.01	0.03
Ammonia as N in water	mg/L	1.3	0.12	0.16	2.3	0.16
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005

Miscellaneous Inorganics		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date prepared	-	15/07/2022
Date analysed	-	15/07/2022
Total Dissolved Solids (grav)	mg/L	<5
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005
Total Nitrogen in water	mg/L	<0.1
NOx as N in water	mg/L	<0.005
Ammonia as N in water	mg/L	<0.005
Phosphate as P in water	mg/L	<0.005

Metals in Waters - Acid extractable						
Our Reference		300573-1	300573-2	300573-3	300573-4	300573-5
Your Reference	UNITS	SMW_WTP_BH030	SMW_WTP_BH030_S	SMW_BH057_s	SMW_BH057	QA2
Date Sampled		15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	20/07/2022	20/07/2022	20/07/2022	20/07/2022	20/07/2022
Date analysed	-	20/07/2022	20/07/2022	20/07/2022	20/07/2022	20/07/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Metals in Waters - Acid extractable		
Our Reference		300573-8
Your Reference	UNITS	R1
Date Sampled		15/07/2022
Type of sample		Water
Date prepared	-	20/07/2022
Date analysed	-	20/07/2022
Phosphorus - Total	mg/L	<0.05

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Metals-031	Analysis of Speciated forms of Arsenic using LC separation followed by ICP-MS analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			18/07/2022	1	18/07/2022	19/07/2022		18/07/2022	[NT]
Date analysed	-			19/07/2022	1	19/07/2022	20/07/2022		19/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	101	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	114	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	103	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	103	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	2	2	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	110	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	1	99	100	1	100	[NT]
Surrogate toluene-d8	%		Org-023	99	1	98	98	0	101	[NT]
Surrogate 4-BFB	%		Org-023	98	1	100	101	1	99	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300573-3
Date extracted	-			21/07/2022	2	21/07/2022	21/07/2022		21/07/2022	21/07/2022
Date analysed	-			22/07/2022	2	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Phenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	43	38
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	77	79
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	77	77
2-Methylphenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	70	63
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	2	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	2	<2	<2	0	72	71
4-Chloroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	84	86
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	79	79
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	2	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	2	<20	<20	0	56	40
Dibenzofuran	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300573-3
4-Nitroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	2	<2	<2	0	76	76
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	2	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	2	<10	<10	0	69	46
Phenanthrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	82
Anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	78	76
Pyrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	85	83
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	2	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	2	<2	<2	0	71	77
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	2	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	76	78
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	96	88
Hexachloropropene-1	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300573-3
2-Naphthylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	78	78
b-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	75	73
g-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	2	<2	<2	0	78	73
Aldrin	µg/L	2	Org-022/025	<2	2	<2	<2	0	85	85
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	82
g-Chlordane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	82
Dieldrin	µg/L	2	Org-022/025	<2	2	<2	<2	0	88	88
Endrin	µg/L	2	Org-022/025	<2	2	<2	<2	0	72	76
p,p'-DDD	µg/L	2	Org-022/025	<2	2	<2	<2	0	62	64
Endosulfan II	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	2	<2	<2	0	86	72
Endrin Ketone	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	2	<2	<2	0	91	91
Mevinphos	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300573-3
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	2	<2	<2	0	69	71
Fenitrothion	µg/L	2	Org-022/025	<2	2	<2	<2	0	61	63
Malathion (Maldison)	µg/L	2	Org-022/025	<2	2	<2	<2	0	83	83
Chloropyriphos	µg/L	2	Org-022/025	<2	2	<2	<2	0	80	82
Fenthion	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	2	<2	<2	0	66	66
Bromophos Ethyl	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	72
Phosalone	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	[NT]	2	51	53	4	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022/025	[NT]	2	45	45	0	[NT]	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	82	2	79	84	6	81	79
Surrogate 2-fluorobiphenyl	%		Org-022/025	91	2	88	97	10	78	77
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	80	2	72	74	3	77	73
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	91	2	88	93	6	88	88

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300573-2
Date prepared	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	19/07/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	116
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	106	105
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	96
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	102
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	104
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	121
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	101
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	112
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	100
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	100	113
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	105
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	109
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	101
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	113	102
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	110	113
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	105	118
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	103	95
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	108	111
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	110	120
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	106	124
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	109
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	109
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	107	109
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	102	106
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	117	119
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	99	100
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	105
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	101
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	104	1	99	99	0	101	101
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	1	96	101	5	95	101

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300573-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	1	87	86	1	97	84
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	93	1	101	99	2	94	101
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	95	1	93	93	0	98	92
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	101	1	58	60	3	98	57
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	98	1	64	64	0	97	62
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	99	1	75	74	1	98	75
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	104	1	73	74	1	102	71
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	100	1	66	67	2	102	66
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	106	1	71	70	1	104	66
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	99	1	74	74	0	106	74
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	102	1	78	69	12	100	70
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	96	1	60	60	0	95	62
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	68	1	52	54	4	72	56
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	100	1	35	35	0	102	36
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	107	1	32	33	3	115	32
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	120	1	39	37	5	127	38
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	106	1	71	69	3	105	68
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	98	1	94	97	3	98	96
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	97	1	93	96	3	100	97
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	103	1	98	98	0	98	99

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300573-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	100	1	91	90	1	104	99
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	110	1	43	41	5	118	44
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	118	1	42	43	2	121	45

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			18/07/2022	1	18/07/2022	19/07/2022		18/07/2022	[NT]
Date analysed	-			19/07/2022	1	19/07/2022	20/07/2022		19/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	112	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	112	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
Toluene	µg/L	1	Org-023	<1	1	2	2	0	109	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	115	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	115	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	114	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	1	99	100	1	100	[NT]
Surrogate toluene-d8	%		Org-023	99	1	98	98	0	101	[NT]
Surrogate 4-BFB	%		Org-023	98	1	100	101	1	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			21/07/2022	4	21/07/2022	22/07/2022		21/07/2022	[NT]
Date analysed	-			21/07/2022	4	22/07/2022	22/07/2022		21/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	4	380	290	27	92	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	4	<100	<100	0	87	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	4	<100	<100	0	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	4	390	300	26	92	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	4	<100	<100	0	87	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	4	<100	<100	0	86	[NT]
Surrogate o-Terphenyl	%		Org-020	92	4	91	69	28	110	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300573-3
Date extracted	-			21/07/2022	2	21/07/2022	21/07/2022		[NT]	21/07/2022
Date analysed	-			21/07/2022	2	21/07/2022	21/07/2022		[NT]	21/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	71
Acenaphthylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	71
Fluorene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	69
Phenanthrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	79
Anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	76
Pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	81
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	63
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	76
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	84	2	83	89	7	[NT]	87

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300573-3
Date extracted	-			21/07/2022	2	21/07/2022	21/07/2022		[NT]	21/07/2022
Date analysed	-			21/07/2022	2	21/07/2022	21/07/2022		[NT]	21/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	72
HCB	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	75
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	77
delta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	83
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	76
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	76
Dieldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	77
Endrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	76
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	82
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	74
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	84	2	83	82	1	[NT]	83

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300573-3
Date extracted	-			21/07/2022	2	21/07/2022	21/07/2022		[NT]	21/07/2022
Date analysed	-			21/07/2022	2	21/07/2022	21/07/2022		[NT]	21/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	94
Dimethoate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	71
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	81
Malathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	110
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	84
Parathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	74
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	76
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	84	2	83	82	1	[NT]	83

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300573-2
Date prepared	-			21/07/2022	1	21/07/2022	21/07/2022		21/07/2022	21/07/2022
Date analysed	-			21/07/2022	1	21/07/2022	21/07/2022		21/07/2022	21/07/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	30	40	29	105	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	5	6	18	101	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	104	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	100	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	12000	13000	8	103	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	3200	3300	3	105	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	97	94
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	16	17	6	100	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	18	19	5	104	[NT]

QUALITY CONTROL: Speciated Arsenic					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Date analysed	-			19/07/2022	1	19/07/2022	19/07/2022		19/07/2022	[NT]
Arsenobetaine (ASB)	µg/L	1	Metals-031	<1	1	<1	<1	0	111	[NT]
Arsenious Acid, As (III)	µg/L	1	Metals-031	<1	1	<1	<1	0	101	[NT]
Dimethylarsenic Acid (DMA)	µg/L	1	Metals-031	<1	1	<1	<1	0	116	[NT]
Monomethylarsonic Acid (MMA)	µg/L	1	Metals-031	<1	1	<1	<1	0	114	[NT]
Arsenic Acid, As (V)	µg/L	1	Metals-031	<1	1	<1	<1	0	116	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			25/07/2022	[NT]	[NT]	[NT]	[NT]	25/07/2022	[NT]
Date analysed	-			25/07/2022	[NT]	[NT]	[NT]	[NT]	25/07/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	60	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	64	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	64	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	76	[NT]	[NT]	[NT]	[NT]	68	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	[NT]
Date analysed	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	770	670	14	100	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	23	20	14	93	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	6000	5200	14	99	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	950	950	0	101	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	<3	1	5800	5600	4	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	580	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	580	[NT]		102	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	980	[NT]		96	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	11000	[NT]		100	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	4.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300573-4
Date prepared	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	21000	22000	5	111	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	<0.005	0	107	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.2	1.2	0	105	103
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.1	0.1	0	100	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	1.3	1.2	8	96	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	83	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			20/07/2022	[NT]	[NT]	[NT]	[NT]	20/07/2022	[NT]
Date analysed	-			20/07/2022	[NT]	[NT]	[NT]	[NT]	20/07/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	94	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

PFAS: For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Speciated Arsenic: Samples were analysed from unpreserved bottles, there is a possibility results are underestimates. The suggested preservation is field filtered HCl preserved bottles.

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

Acid Herbicide analysed by Envirolab Melbourne. Report No. 32574
- PQL has been raised due to the limited amount of sample/s available for testing.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	David Harris, Steve Rocks

Sample Login Details	
Your reference	SC210108.01 / SMW WTP GWMP
Envirolab Reference	300573
Date Sample Received	15/07/2022
Date Instructions Received	15/07/2022
Date Results Expected to be Reported	22/07/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	8 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	6
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	VOCs in water	SVOC's in water	PFAS in Waters Extended	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	HM in water - dissolved	Speciated Arsenic	Acid Herbicides in Water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	Total Dissolved Solids(grav)	Hexavalent Chromium, Cr6+	Total Nitrogen in water	NOx as N in water	Ammonia as N in water	Phosphate as P in water	Metals in Waters -Acid extractable
SMW_WTP_BH030	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_WTP_BH030_S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_BH057_s	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_BH057	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
QA2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TB				✓																										
TS				✓																										
R1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CHAIN OF CUSTODY FORM - Client

ENVIROLAB GROUP

National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
02 9910 6200 | sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myaree, WA 6154
08 9317 2505 | lab@mpl.com.au

Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
03 9763 2500 | melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
08 7087 6800 | adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
07 3266 9532 | brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
08 8967 1201 | darwin@envirolab.com.au

Company:	Epic Environmental
Contact Person:	Steve Rocks
Project Mgr:	David Harris
Sampler:	SR, MP, JX
Address:	
Phone:	Mob: 0414 776 988
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au

Client Project Name/Number/Site etc (ie report title): SMW WTP GWMP / SC210108.01

PO No. (if applicable):

Envirolab Quote No. :

Date results required:

Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ☑ Esdat ☐ Equis

Lab Comments:

Sample information / Tests Required

Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Combo 5b	Ionic balance	TDS	CrVI	Nutrient suite	Phenoxy acid herbicides	VOC / SVOC	PFAS	Arsenic Speciation	BTEX	Comments
1	SMW_WTP_BH030		15/07/2022 09:30		X	X	X	X	X	X	X	X	X		Provide as much information about the sample as you can
2	SMW_WTP_BH30_s		15/07/2022 11:00		X	X	X	X	X	X	X	X	X		Metals to test: Al, As, Cd, Cr, Cu, Hg, Pb, Ni, Zn, Mn, Fe
3	SMW_BH057_s		15/07/2022 12:30		X	X	X	X	X	X	X	X	X		
4	SMW_BH057		15/07/2022 14:30		X	X	X	X	X	X	X	X	X		
5	QA2		15/07/2022											X	
6	TB		15/07/2022											X	
7	TS		15/07/2022												
8	R1		15/07/2022		X	X	X	X	X	X	X	X	X		

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Epic	Received by (Company): ELS	Lab Use Only	
Print Name: Steve Rocks	Print Name: Victoria Chan	Job number: 300573	Cooling: Ice / Ice pack / None
Date & Time: 15/07/2022 0:00	Date & Time: 15/07/22 1520	Temperature: 6°C	Security seal: Intact / Broken / None
Signature: SR	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

Form 302_V007

Issue date: 21 April 2021

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CERTIFICATE OF ANALYSIS 300679

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01 / SMW WTP GWMP**
Number of Samples	5 Water
Date samples received	18/07/2022
Date completed instructions received	18/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	25/07/2022
Date of Issue	28/07/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Hannah Nguyen, Metals Supervisor
Josh Williams, Organics and LC Supervisor
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	103	100	98
Surrogate toluene-d8	%	98	98	97
Surrogate 4-BFB	%	100	103	99

SVOC's in water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	23/07/2022	23/07/2022	23/07/2022
Phenol	µg/L	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5
Isophorone	µg/L	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20

SVOC's in water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5
Fluorene	µg/L	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2
Anthracene	µg/L	<2	<2	<2
Carbazole	µg/L	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2
Pyrene	µg/L	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2
Chrysene	µg/L	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5
Aniline	µg/L	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5

SVOC's in water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Safrole	µg/L	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2
a-BHC	µg/L	<2	<2	<2
b-BHC	µg/L	<2	<2	<2
g-BHC	µg/L	<2	<2	<2
d-BHC	µg/L	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2
Aldrin	µg/L	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2
Endrin	µg/L	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2

SVOC's in water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2
Phorate	µg/L	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2
Fenthion	µg/L	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2
Methidathion	µg/L	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2
Ethion	µg/L	<2	<2	<2
Phosalone	µg/L	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2
Surrogate 2-fluorophenol	%	61	63	62
Surrogate Phenol-d_6	%	41	42	44
Surrogate Nitrobenzene-d_5	%	101	98	99
Surrogate 2-fluorobiphenyl	%	103	100	102
Surrogate 2,4,6-Tribromophenol	%	89	93	90
Surrogate *p*-Terphenyl-d_{14}	%	112	108	112

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300679-1	300679-2	300679-3	300679-4	300679-5
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2	TS	TB
Date Sampled		18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	99%	<1
Toluene	µg/L	<1	<1	<1	98%	<1
Ethylbenzene	µg/L	<1	<1	<1	113%	<1
m+p-xylene	µg/L	<2	<2	<2	105%	<2
o-xylene	µg/L	<1	<1	<1	118%	<1
Naphthalene	µg/L	<1	<1	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	103	100	98	100	100
Surrogate toluene-d8	%	98	98	97	99	99
Surrogate 4-BFB	%	100	103	99	98	100

svTRH (C10-C40) in Water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50
Surrogate o-Terphenyl	%	92	89	93

PAHs in Water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	101	94	104

Organochlorine Pesticides in Water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	97	93	97

OP Pesticides in Water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	97	93	97

HM in water - dissolved				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date prepared	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Aluminium-Dissolved	µg/L	<10	<10	<10
Arsenic-Dissolved	µg/L	20	5	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	2	<1	<1
Iron-Dissolved	µg/L	46,000	24,000	<10
Manganese-Dissolved	µg/L	1,300	960	<5
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	8	2	<1
Zinc-Dissolved	µg/L	4	<1	1

Speciated Arsenic				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date prepared	-	26/07/2022	26/07/2022	26/07/2022
Date analysed	-	26/07/2022	26/07/2022	26/07/2022
Arsenobetaine (ASB)	µg/L	<1	<1	<1
Arsenious Acid, As (III)	µg/L	21	5	<1
Dimethylarsenic Acid (DMA)	µg/L	<1	<1	<1
Monomethylarsonic Acid (MMA)	µg/L	<1	<1	<1
Arsenic Acid, As (V)	µg/L	4	<1	<1

PFAS in Waters Extended				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date prepared	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Perfluorobutanesulfonic acid	µg/L	0.01	0.05	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	0.02	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	106	112	107
Surrogate $^{13}C_2$ *PFOA*	%	101	105	99
Extracted ISTD $^{13}C_3$ *PFBS*	%	98	94	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	95	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	98	101
Extracted ISTD $^{13}C_4$ *PFBA*	%	85	74	108

PFAS in Waters Extended				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	98	96	102
Extracted ISTD $^{13}C_2$ *PFHxA*	%	105	103	104
Extracted ISTD $^{13}C_4$ *PFHpA*	%	99	102	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	99	102
Extracted ISTD $^{13}C_5$ *PFNA*	%	105	109	107
Extracted ISTD $^{13}C_2$ *PFDA*	%	111	108	112
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	100	101	105
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	102	101	104
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	65	71	76
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	115	110	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	105	112	111
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	111	111	127
Extracted ISTD $^{13}C_8$ *FOSA*	%	104	103	105
Extracted ISTD d_3 *N MeFOSA*	%	95	96	95
Extracted ISTD d_5 *N EtFOSA*	%	95	99	99
Extracted ISTD d_7 *N MeFOSE*	%	95	96	99
Extracted ISTD d_9 *N EtFOSE*	%	97	93	95
Extracted ISTD d_3 *N MeFOSAA*	%	95	90	107
Extracted ISTD d_5 *N EtFOSAA*	%	99	98	111
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.01	0.09	<0.01

Acid Herbicides in Water				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1
Picloram	µg/L	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1
Chloramben	µg/L	<1	<1	<1
Bentazon	µg/L	<1	<1	<1
Surrogate 2.4- DCPA	%	74	60	60

Ion Balance				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date prepared	-	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022
Calcium - Dissolved	mg/L	10	86	<0.5
Potassium - Dissolved	mg/L	22	16	<0.5
Sodium - Dissolved	mg/L	200	150	<0.5
Magnesium - Dissolved	mg/L	26	43	<0.5
Hardness	mgCaCO 3 /L	130	390	<3
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	230	580	<5
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	230	580	<5
Sulphate, SO4	mg/L	260	51	<1
Chloride, Cl	mg/L	150	180	<1
Ionic Balance	%	-7.0	-8.0	N/A

Miscellaneous Inorganics				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022
Total Dissolved Solids (grav)	mg/L	940	830	<5
Hexavalent Chromium, Cr^{6+}	mg/L	<0.050	<0.005	<0.005
Total Nitrogen in water	mg/L	5.5	13	<0.1
NOx as N in water	mg/L	<0.005	0.01	<0.005
Ammonia as N in water	mg/L	4.1	9.9	<0.005
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005

Metals in Waters - Acid extractable				
Our Reference		300679-1	300679-2	300679-3
Your Reference	UNITS	SMW_ENV010	SMW_ENV009	R2
Date Sampled		18/07/2022	18/07/2022	18/07/2022
Type of sample		Water	Water	Water
Date prepared	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Phosphorus - Total	mg/L	0.07	0.4	<0.05

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Metals-031	Analysis of Speciated forms of Arsenic using LC separation followed by ICP-MS analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/07/2022	1	21/07/2022	22/07/2022		21/07/2022	[NT]
Date analysed	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	95	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	111	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	96	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	93	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	94	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	102	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	1	103	105	2	104	[NT]
Surrogate toluene-d8	%		Org-023	97	1	98	97	1	101	[NT]
Surrogate 4-BFB	%		Org-023	103	1	100	97	3	102	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
Date extracted	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Date analysed	-			23/07/2022	1	23/07/2022	23/07/2022		23/07/2022	23/07/2022
Phenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	51	38
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	97	81
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	79
2-Methylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	78	67
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	92	75
4-Chloroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	108	92
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	99	83
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	53	30
Dibenzofuran	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
4-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	99	82
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	82	75
Phenanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	104	86
Anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	102	86
Pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	109	93
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	1	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	81
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	100	94
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	93	83
Hexachloropropene-1	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
2-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	104	90
b-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	106	89
g-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	103	87
Aldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	107	91
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	1	<2	<2	0	108	94
g-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	1	<2	<2	0	107	90
Dieldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	96
Endrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	102	94
p,p'-DDD	µg/L	2	Org-022/025	<2	1	<2	<2	0	94	82
Endosulfan II	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	1	<2	<2	0	104	96
Endrin Ketone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	1	<2	<2	0	111	97
Mevinphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	93	81
Fenitrothion	µg/L	2	Org-022/025	<2	1	<2	<2	0	83	77
Malathion (Maldison)	µg/L	2	Org-022/025	<2	1	<2	<2	0	105	97
Chloropyriphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	104	90
Fenthion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	1	<2	<2	0	86	82
Bromophos Ethyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	1	<2	<2	0	90	86
Phosalone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	64	1	61	63	3	67	52
Surrogate Phenol-d_6	%		Org-022/025	43	1	41	46	11	51	38
Surrogate Nitrobenzene-d_5	%		Org-022/025	100	1	101	99	2	101	79
Surrogate 2-fluorobiphenyl	%		Org-022/025	101	1	103	99	4	95	80
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	85	1	89	91	2	88	76
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	110	1	112	109	3	109	82

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/07/2022	1	21/07/2022	22/07/2022		21/07/2022	[NT]
Date analysed	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	103	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	103	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	106	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	<1	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	1	103	105	2	104	[NT]
Surrogate toluene-d8	%		Org-023	97	1	98	97	1	101	[NT]
Surrogate 4-BFB	%		Org-023	103	1	100	97	3	102	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	[NT]
Date analysed	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	92	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	92	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	84	1	92	90	2	86	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
Date analysed	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	[NT]	3	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	[NT]	3	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	[NT]	3	<100	<100	0	[NT]	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	[NT]	3	<50	<50	0	[NT]	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	[NT]	3	<100	<100	0	[NT]	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	[NT]	3	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	3	93	89	4	[NT]	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
Date extracted	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Date analysed	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	69
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	87	71
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	72
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	84	69
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	90	74
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	99	83
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	81	67
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	90	76
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	97	1	101	98	3	102	79

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
Date analysed	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
Naphthalene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	[NT]	3	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	[NT]	3	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	3	104	96	8	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
Date extracted	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Date analysed	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	92	76
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	92	78
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	89	75
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	97	83
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	88	74
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	90	76
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	90	78
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	80
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	94	80
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	80
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	100	1	97	96	1	102	73

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
Date analysed	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
HCB	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
delta-BHC	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Dieldrin	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Endrin	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	3	97	94	3	[NT]	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300679-2
Date extracted	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Date analysed	-			22/07/2022	1	22/07/2022	22/07/2022		22/07/2022	22/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	106	91
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	83	69
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	85	77
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	122	105
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	94	78
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	84	74
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	84	74
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	100	1	97	96	1	102	73

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
Date analysed	-			[NT]	3	22/07/2022	22/07/2022		[NT]	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Dimethoate	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Malathion	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Parathion	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	[NT]	3	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	3	97	94	3	[NT]	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	104	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	101	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	100	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Speciated Arsenic					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			26/07/2022	1	26/07/2022	26/07/2022		26/07/2022	[NT]
Date analysed	-			26/07/2022	1	26/07/2022	26/07/2022		26/07/2022	[NT]
Arsenobetaine (ASB)	µg/L	1	Metals-031	<1	1	<1	<1	0	101	[NT]
Arsenious Acid, As (III)	µg/L	1	Metals-031	<1	1	21	21	0	85	[NT]
Dimethylarsenic Acid (DMA)	µg/L	1	Metals-031	<1	1	<1	<1	0	102	[NT]
Monomethylarsonic Acid (MMA)	µg/L	1	Metals-031	<1	1	<1	<1	0	102	[NT]
Arsenic Acid, As (V)	µg/L	1	Metals-031	<1	1	4	3	29	109	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	107	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	108	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	116	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	112	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	114	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	112	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	112	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	77	[NT]	[NT]	[NT]	[NT]	72	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	123	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			25/07/2022	[NT]	[NT]	[NT]	[NT]	25/07/2022	[NT]
Date analysed	-			25/07/2022	[NT]	[NT]	[NT]	[NT]	25/07/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	60	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	64	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	64	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	76	[NT]	[NT]	[NT]	[NT]	68	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			18/07/2022	[NT]	[NT]	[NT]	[NT]	18/07/2022	[NT]
Date analysed	-			18/07/2022	[NT]	[NT]	[NT]	[NT]	18/07/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	95	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	84	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	88	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	95	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	[NT]	[NT]	[NT]	[NT]	93	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	[NT]	[NT]	[NT]	[NT]	100	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	98	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	[NT]	[NT]	[NT]	[NT]	93	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	104	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG: Cr PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

Acid Herbicides in Water analysed by Envirolab Services Melbourne. Report No. 32660

Speciated Arsenic: Samples were analysed from Sulphuric acid preserved bottles, there is a possibility results are underestimates.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks

Sample Login Details	
Your reference	SC210108.01 / SMW WTP GWMP
Envirolab Reference	300679
Date Sample Received	18/07/2022
Date Instructions Received	18/07/2022
Date Results Expected to be Reported	25/07/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	6
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water	SVOC's in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	HM in water - dissolved	Speciated Arsenic	PFAS in Waters Extended	Acid Herbicides in Water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	Total Dissolved Solids(grav)	Hexavalent Chromium, Cr6+	Total Nitrogen in water	NOx as N in water	Ammonia as N in water	Phosphate as P in water	Metals in Waters -Acid extractable
SMW_ENV010	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_ENV009	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TS			✓																											
TB			✓																											

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

COC 18/7 14:15

CHAIN OF CUSTODY FORM - Client

ENVIROLAB GROUP
National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
02 9910 6200 | sydney@envirolab.com.au

Perth Lab - MPL Laboratories
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Melbourne Lab - Envirolab Services
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Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
08 8967 1201 | darwin@envirolab.com.au

Company:	Epic Environmental
Contact Person:	Steve Rocks
Project Mgr:	David Harris
Sampler:	MP, JX
Address:	
Phone:	Mob: 0414 776 988
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au

Client Project Name/Number/Site etc (ie report title): SMW WTP GWMP / SC210108.01

PO No. (if applicable):

Envirolab Quote No. :

Date results required:

Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ☑ Esdat ☐ Equis

Lab Comments:

Sample information / Tests Required / Comments

Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Combo 5b	Ionic balance	TDS	CrVI	Nutrient suite	Phenoxy acid herbicides	VOC / SVOC	PFAS	Arsenic Speciation	BTEX	Comments: Provide as much information about the sample as you can
1	SMW_ENV010		18/07/2022 10:00		X	X	X	X	X	X	X	X	X		Metals to test: Al, As, Cd, Cr, Cu, Hg, Pb, Ni, Zn, Mn, Fe
2	SMW_ENV009		18/07/2022 12:00		X	X	X	X	X	X	X	X	X		
3	R2		18/07/2022		X	X	X	X	X	X	X	X	X		
4	TS		18/07/2022											X	
5	TB		18/07/2022											X	

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Epic	Received by (Company): ELS Sydney	*Lab Use Only*	
Print Name: Steve Rocks	Print Name:	Job number: 300679	Cooling: Ice / Ice pack / None
Date & Time: 18/07/2022 14:00	Date & Time: 18/07/2022 15:00	Temperature: 6.	Security seal: Intact / Broken / None
Signature: SR	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

Updated COC 18/07/2022 14:15.

CHAIN OF CUSTODY FORM - Client

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08 8967 1201 | darwin@envirolab.com.au

Company:	EPIC ENVIRONMENTAL
Contact Person:	Steve Rocks
Project Mgr:	David Harris
Sampler:	Joy and Murti
Address:	
Phone:	
Mob:	0414 776 988
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au
Client Project Name/Number/Site etc (ie report title):	SMW WTP GWMP/EC210108.01
PO No. (if applicable):	
Envirolab Quote No.:	
Date results required:	
Or choose:	☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ☑ Esdat ☐ Equis

Lab Comments:

Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Tests Required	Comments: Provide as much information about the sample as you can
1	SMW-ENV010		18/7/22	W		
2	SMW-ENV009		18/7/22	W		
3	R2		18/7/22	W		
4	TS		18/7	W		
5	TB		18/7	W		

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): EPIC	Received by (Company): ELS SYDNEY	*Lab Use Only*	
Print Name: Steve Rocks	Print Name: TTHAN	Job number: 300679	Cooling: Ice / Ice pack / None
Date & Time: 18/7/22 14:00	Date & Time: 18/7/22 1500	Temperature: 6	Security seal: Intact / Broken / None
Signature: Murti	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

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CERTIFICATE OF ANALYSIS 300822

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01 / SMW WTP GWMP**
Number of Samples	5 Water
Date samples received	19/07/2022
Date completed instructions received	19/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	26/07/2022
Date of Issue	27/07/2022

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Results Approved By
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water				
Our Reference	UNITS	300822-1	300822-2	300822-3
Your Reference		SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	20/07/2022	20/07/2022	20/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	36	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	270	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	13	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	4	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	34	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	6	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	4	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	2	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	2	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	100	111	105
Surrogate toluene-d8	%	97	106	98
Surrogate 4-BFB	%	98	98	101

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300822-1	300822-2	300822-3	300822-4	300822-5
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3	TS	TB
Date Sampled		19/07/2022	19/07/2022	19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	20/07/2022	20/07/2022	20/07/2022	20/07/2022	20/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022
TRH C_6 - C_9	µg/L	<10	380	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	450	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	160	<10	[NA]	<10
Benzene	µg/L	<1	270	<1	96%	<1
Toluene	µg/L	<1	<1	<1	99%	<1
Ethylbenzene	µg/L	<1	<1	<1	116%	<1
m+p-xylene	µg/L	<2	13	<2	110%	<2
o-xylene	µg/L	<1	4	<1	108%	<1
Naphthalene	µg/L	<1	44	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	100	111	105	99	98
Surrogate toluene-d8	%	97	106	98	98	99
Surrogate 4-BFB	%	98	98	101	98	102

svTRH (C10-C40) in Water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022
TRH C_{10} - C_{14}	µg/L	<50	920	<50
TRH C_{15} - C_{28}	µg/L	<100	320	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	1,200	<50
TRH >C_{10} - C_{16}	µg/L	<50	950	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	910	<50
TRH >C_{16} - C_{34}	µg/L	<100	150	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	1,100	<50
Surrogate o-Terphenyl	%	91	102	94

PAHs in Water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022
Naphthalene	µg/L	<1	25	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	2	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	27	NIL (+)VE
Surrogate p-Terphenyl-d14	%	72	80	80

Organochlorine Pesticides in Water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	73	80	78

OP Pesticides in Water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	73	80	78

SVOC's in water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	26/07/2022	26/07/2022	26/07/2022
Phenol	µg/L	<2	4	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5
Isophorone	µg/L	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2
Naphthalene	µg/L	<2	25	<2
4-Chloroaniline	µg/L	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	3	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5
Acenaphthene	µg/L	<2	2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20

SVOC's in water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5
Fluorene	µg/L	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2
Anthracene	µg/L	<2	<2	<2
Carbazole	µg/L	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2
Pyrene	µg/L	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2
Chrysene	µg/L	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5
Aniline	µg/L	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5

SVOC's in water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Safrole	µg/L	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2
a-BHC	µg/L	<2	<2	<2
b-BHC	µg/L	<2	<2	<2
g-BHC	µg/L	<2	<2	<2
d-BHC	µg/L	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2
Aldrin	µg/L	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2
Endrin	µg/L	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2

SVOC's in water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2
Phorate	µg/L	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2
Fenthion	µg/L	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2
Methidathion	µg/L	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2
Ethion	µg/L	<2	<2	<2
Phosalone	µg/L	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2
Surrogate 2-fluorophenol	%	49	52	51
Surrogate Phenol-d_6	%	29	39	33
Surrogate Nitrobenzene-d_5	%	80	89	89
Surrogate 2-fluorobiphenyl	%	79	89	83
Surrogate 2,4,6-Tribromophenol	%	74	89	80
Surrogate *p*-Terphenyl-d_{14}	%	85	92	90

HM in water - dissolved				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date prepared	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Aluminium-Dissolved	µg/L	180	90	<10
Arsenic-Dissolved	µg/L	<1	1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	3	9	<1
Iron-Dissolved	µg/L	50	3,000	<10
Manganese-Dissolved	µg/L	8	83	<5
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	2	4	<1
Zinc-Dissolved	µg/L	10	25	<1

Speciated Arsenic				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date prepared	-	26/07/2022	26/07/2022	26/07/2022
Date analysed	-	26/07/2022	26/07/2022	26/07/2022
Arsenobetaine (ASB)	µg/L	<1	<1	<1
Arsenious Acid, As (III)	µg/L	<1	<1	<1
Dimethylarsenic Acid (DMA)	µg/L	<1	<1	<1
Monomethylarsonic Acid (MMA)	µg/L	<1	<1	<1
Arsenic Acid, As (V)	µg/L	<1	<1	<1

PFAS in Waters Extended				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date prepared	-	21/07/2022	21/07/2022	21/07/2022
Date analysed	-	21/07/2022	21/07/2022	21/07/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	0.02	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.03	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.03	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	0.05	<0.02
Perfluorohexanoic acid	µg/L	<0.01	0.08	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	0.03	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.16	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	95	99	98
Surrogate $^{13}C_2$ PFOA	%	99	102	96
Extracted ISTD $^{13}C_3$ PFBS	%	96	85	85
Extracted ISTD $^{18}O_2$ PFHxS	%	98	92	87
Extracted ISTD $^{13}C_4$ PFOS	%	101	98	96
Extracted ISTD $^{13}C_4$ PFBA	%	100	65	98

PFAS in Waters Extended				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	100	94	93
Extracted ISTD $^{13}C_2$ *PFHxA*	%	100	98	92
Extracted ISTD $^{13}C_4$ *PFHpA*	%	97	96	92
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	89	89
Extracted ISTD $^{13}C_5$ *PFNA*	%	103	98	95
Extracted ISTD $^{13}C_2$ *PFDA*	%	104	99	96
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	98	94	89
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	97	97	92
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	82	83	77
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	93	99	87
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	96	101	92
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	109	106	103
Extracted ISTD $^{13}C_8$ *FOSA*	%	96	92	91
Extracted ISTD d_3 *N MeFOSA*	%	92	86	85
Extracted ISTD d_5 *N EtFOSA*	%	93	92	90
Extracted ISTD d_7 *N MeFOSE*	%	93	85	83
Extracted ISTD d_9 *N EtFOSE*	%	92	85	84
Extracted ISTD d_3 *N MeFOSAA*	%	98	100	102
Extracted ISTD d_5 *N EtFOSAA*	%	110	107	105
Total Positive PFHxS & PFOS	µg/L	<0.01	0.06	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.18	<0.01
Total Positive PFAS	µg/L	<0.01	0.39	<0.01

Acid Herbicides in Water				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date extracted	-	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022
Clopyralid	µg/L	<5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<5	<0.5	<0.5
4-CPA	µg/L	<5	<0.5	<0.5
Dicamba	µg/L	<5	<0.5	<0.5
MCPP	µg/L	<5	<0.5	<0.5
MCPA	µg/L	<5	<0.5	<0.5
Dichlorprop	µg/L	<5	<0.5	<0.5
2,4-D	µg/L	<5	<0.5	<0.5
Bromoxynil	µg/L	<5	<0.5	<0.5
Triclopyr	µg/L	<5	<0.5	<0.5
2,4,5-TP	µg/L	<5	<0.5	<0.5
2,4,5-T	µg/L	<5	<0.5	<0.5
MCPB	µg/L	<5	<0.5	<0.5
Dinoseb	µg/L	<10	<1	<1
2,4-DB	µg/L	<5	<0.5	<0.5
Ioxynil	µg/L	<10	<1	<1
Picloram	µg/L	<10	<1	<1
Acifluorfen	µg/L	<20	<2	<2
2,4,6-T	µg/L	<5	<0.5	<0.5
2,6-D	µg/L	<5	<0.5	<0.5
Fluroxypyr	µg/L	<10	<1	<1
Chloramben	µg/L	<10	<1	<1
Bentazon	µg/L	<10	<1	<1
Surrogate 2.4- DCPA	%	50	82	88

Ion Balance				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022
Calcium - Dissolved	mg/L	<0.5	<0.5	<0.5
Potassium - Dissolved	mg/L	<0.5	0.7	<0.5
Sodium - Dissolved	mg/L	58	88	<0.5
Magnesium - Dissolved	mg/L	0.7	1	<0.5
Hardness	mgCaCO 3 /L	<3	4.5	<3
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	24	<5
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	5	24	<5
Sulphate, SO4	mg/L	83	110	<1
Chloride, Cl	mg/L	28	37	<1
Ionic Balance	%	-1.0	1.0	N/A

Miscellaneous Inorganics				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date prepared	-	19/07/2022	19/07/2022	19/07/2022
Date analysed	-	19/07/2022	19/07/2022	19/07/2022
Total Dissolved Solids (grav)	mg/L	370	490	<5
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005
Total Nitrogen in water	mg/L	0.8	0.7	<0.1
NOx as N in water	mg/L	0.64	0.005	<0.005
Ammonia as N in water	mg/L	<0.005	0.012	<0.005
Phosphate as P in water	mg/L	0.006	0.27	<0.005

Metals in Waters - Acid extractable				
Our Reference		300822-1	300822-2	300822-3
Your Reference	UNITS	SMW_ENV300_s	SMW_ENV295	R3
Date Sampled		19/07/2022	19/07/2022	19/07/2022
Type of sample		Water	Water	Water
Date prepared	-	20/07/2022	20/07/2022	20/07/2022
Date analysed	-	20/07/2022	20/07/2022	20/07/2022
Phosphorus - Total	mg/L	<0.05	0.6	<0.05

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Metals-031	Analysis of Speciated forms of Arsenic using LC separation followed by ICP-MS analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			20/07/2022	1	20/07/2022	21/07/2022		20/07/2022	[NT]
Date analysed	-			21/07/2022	1	21/07/2022	22/07/2022		21/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	113	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	103	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	101	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	1	100	98	2	103	[NT]
Surrogate toluene-d8	%		Org-023	99	1	97	97	0	101	[NT]
Surrogate 4-BFB	%		Org-023	98	1	98	99	1	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			20/07/2022	1	20/07/2022	21/07/2022		20/07/2022	[NT]
Date analysed	-			21/07/2022	1	21/07/2022	22/07/2022		21/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	107	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	107	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	109	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	108	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	98	1	100	98	2	103	[NT]
Surrogate toluene-d8	%		Org-023	99	1	97	97	0	101	[NT]
Surrogate 4-BFB	%		Org-023	98	1	98	99	1	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	[NT]
Date analysed	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	2	920	800	14	98	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	2	320	300	6	103	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	2	950	830	13	98	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	2	150	140	7	103	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	99	2	102	90	12	114	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	300822-3
Date extracted	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
Date analysed	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	2	25	26	4	64	72
Acenaphthylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	2	2	2	0	61	75
Fluorene	µg/L	1	Org-022/025	<1	2	<1	<1	0	63	78
Phenanthrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	69	75
Anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	65	78
Pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	69	83
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	2	<1	<1	0	64	73
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	68	82
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	67	2	80	81	1	73	83

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	300822-3
Date extracted	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
Date analysed	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	64	78
HCB	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	67	78
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	65	79
delta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	69	83
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	62	76
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	64	78
Dieldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	63	77
Endrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	70	80
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	66	80
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	62	74
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	63	2	80	80	0	72	82

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	300822-3
Date extracted	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
Date analysed	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	79	101
Dimethoate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	63	71
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	73	87
Malathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	89	110
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	68	82
Parathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	64	76
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	62	78
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	63	2	80	80	0	72	82

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300822-3
Date extracted	-			25/07/2022	2	25/07/2022	25/07/2022		25/07/2022	25/07/2022
Date analysed	-			26/07/2022	2	26/07/2022	26/07/2022		26/07/2022	26/07/2022
Phenol	µg/L	2	Org-022/025	<2	2	4	3	29	39	40
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	83	91
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	77	87
2-Methylphenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	70	74
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	2	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	2	25	26	4	74	82
4-Chloroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	2	3	3	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	88	102
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	2	2	3	40	79	89
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	2	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	2	<20	<20	0	43	37
Dibenzofuran	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	93	101
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300822-3
4-Nitroaniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	2	<2	<2	0	78	88
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	2	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	2	<10	<10	0	79	88
Phenanthrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	94
Anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	80	90
Pyrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	85	97
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	2	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	2	<2	<2	0	79	87
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	2	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	90	94
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	94	107
Hexachloropropene-1	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300822-3
2-Naphthylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	2	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	2	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	94
b-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	78	90
g-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	2	<2	<2	0	79	91
Aldrin	µg/L	2	Org-022/025	<2	2	<2	<2	0	85	101
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	2	<2	<2	0	84	100
g-Chlordane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	2	<2	<2	0	84	96
Dieldrin	µg/L	2	Org-022/025	<2	2	<2	<2	0	88	100
Endrin	µg/L	2	Org-022/025	<2	2	<2	<2	0	84	92
p,p'-DDD	µg/L	2	Org-022/025	<2	2	<2	<2	0	68	76
Endosulfan II	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	2	<2	<2	0	88	98
Endrin Ketone	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	2	<2	<2	0	95	109
Mevinphos	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300822-3
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	2	<2	<2	0	77	85
Fenitrothion	µg/L	2	Org-022/025	<2	2	<2	<2	0	75	81
Malathion (Maldison)	µg/L	2	Org-022/025	<2	2	<2	<2	0	91	101
Chloropyriphos	µg/L	2	Org-022/025	<2	2	<2	<2	0	86	98
Fenthion	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	2	<2	<2	0	76	87
Bromophos Ethyl	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	2	<2	<2	0	82	90
Phosalone	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	54	2	52	54	4	54	56
Surrogate Phenol-d_6	%		Org-022/025	35	2	39	36	8	38	37
Surrogate Nitrobenzene-d_5	%		Org-022/025	81	2	89	95	7	88	89
Surrogate 2-fluorobiphenyl	%		Org-022/025	81	2	89	91	2	74	81
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	75	2	89	94	5	80	80
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	84	2	92	97	5	88	93

QUALITY CONTROL: HM in water - dissolved					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	104	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	101	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	100	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Speciated Arsenic					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Arsenobetaine (ASB)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Arsenious Acid, As (III)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Dimethylarsenic Acid (DMA)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Monomethylarsonic Acid (MMA)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Arsenic Acid, As (V)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			21/07/2022	[NT]	[NT]	[NT]	[NT]	21/07/2022	[NT]
Date analysed	-			21/07/2022	[NT]	[NT]	[NT]	[NT]	21/07/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	115	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	112	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	116	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	120	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	111	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	114	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	112	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	116	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	120	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	109	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	77	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	77	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	80	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	84	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	82	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	68	[NT]	[NT]	[NT]	[NT]	78	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	82	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	81	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	84	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	79	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	84	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	77	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	75	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	111	[NT]

QUALITY CONTROL: Acid Herbicides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	60	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	80	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	82	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	76	[NT]	[NT]	[NT]	[NT]	82	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/07/2022	3	19/07/2022	25/07/2022		19/07/2022	[NT]
Date analysed	-			19/07/2022	3	19/07/2022	25/07/2022		19/07/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	<0.5	<0.5	0	86	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	<0.5	<0.5	0	84	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	<0.5	<0.5	0	92	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	<0.5	<0.5	0	90	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	3	<3	<3	0	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	[NT]		104	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	3	<1	[NT]		94	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	3	<1	[NT]		97	[NT]
Ionic Balance	%		Inorg-040	[NT]	3	N/A	N/A		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Date analysed	-			19/07/2022	[NT]	[NT]	[NT]	[NT]	19/07/2022	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	[NT]	[NT]	[NT]	[NT]	120	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	[NT]	[NT]	[NT]	[NT]	100	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	98	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	[NT]	[NT]	[NT]	[NT]	92	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300822-2
Date prepared	-			20/07/2022	1	20/07/2022	20/07/2022		20/07/2022	20/07/2022
Date analysed	-			20/07/2022	1	20/07/2022	20/07/2022		20/07/2022	20/07/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	108	103

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Herbicides analysed by Envirolab Services Melbourne. Report No. 32636
- PQL has been raised due to the sample matrix requiring dilution.
- Low surrogate recovery was obtained for 300822-1 due to interferences from the sample matrix.

Dissolved Metals: empty bottle for filtered, preserved sample was received for #1, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

Speciated Arsenic: Samples were analysed from unpreserved bottles, there is a possibility results are underestimates.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks

Sample Login Details	
Your reference	SC210108.01 / SMW WTP GWMP
Envirolab Reference	300822
Date Sample Received	19/07/2022
Date Instructions Received	19/07/2022
Date Results Expected to be Reported	26/07/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	5 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	12
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	VOCs in water	SVOC's in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	HM in water - dissolved	Speciated Arsenic	PFAS in Waters Extended	Acid Herbicides in Water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	Total Dissolved Solids(grav)	Hexavalent Chromium, Cr6+	Total Nitrogen in water	NOx as N in water	Ammonia as N in water	Phosphate as P in water	Metals in Waters -Acid extractable
SMW_ENV30_s	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_ENV295	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TS			✓																											
TB			✓																											

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

COC 19/7 15:46

CHAIN OF COUSTODY FORM - Client

ENVIROLAB GROUP | ENVIROLAB SERVICES | empl

ENVIROLAB GROUP
National phone number 1300 424 344

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
02 9910 6200 | sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myaree, WA 6154
08 9317 2505 | lab@mpl.com.au

Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
03 9763 2500 | melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
08 7087 6800 | adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
07 3266 9532 | brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
08 8967 1201 | darwin@envirolab.com.au

Company:	Epic Environmental
Contact Person:	Steve Rocks
Project Mgr:	David Harris
Sampler:	MP, JX
Address:	
Phone:	Mob: 0414 776 988
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au

Client Project Name/Number/Site etc (ie report title): SMW WTP GWMP / SC210108.01

PO No. (if applicable):

Envirolab Quote No. :

Date results required:

Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Additional report format: ☑ Esdat ☐ Equis

Lab Comments:

Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Combo 5b	Ionic balance	TDS	CrVI	Nutrient suite	Phenoxy acid herbicides	VOC / SVOC	PFAS	Arsenic Speciation	BTEX	Comments: Provide as much information about the sample as you can
1	SMW_ENV300_s		19/07/2022 10:00	Water	X	X	X	X	X	X	X	X	X		
2	SMW_ENV295		19/072022 14:00	Water	X	X	X	X	X	X	X	X	X		Metals to test: Al, As, Cd, Cr, Cu, Hg, Pb, Ni, Zn, Mn, Fe
3	R3		19/07/2022	Water	X	X	X	X	X	X	X	X	X		
4	TS		19/07/2022	Water										X	
5	TB		19/07/2022	Water										X	

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Epic	Received by (Company): ELS SYD	*Lab Use Only*
Print Name: Joy Jieli XIE	Print Name: Katy Wayne	Job number: 300822 — Cooling: Ice / Ice pack / None
Date & Time: 19/07/2022 16:00	Date & Time: 19/7/22 1430	Temperature: 12°C — Security seal: Intact / Broken / None
Signature: JX	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD

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CERTIFICATE OF ANALYSIS 301190

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01 / SMW WTP GWMP**
Number of Samples	7 Water
Date samples received	22/07/2022
Date completed instructions received	22/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	29/07/2022
Date of Issue	04/08/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Josh Williams, Organics and LC Supervisor
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference	UNITS	301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference		SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022
Date analysed	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	8
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference	UNITS	301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference		SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	95	94	95	96
Surrogate toluene-d8	%	97	97	96	96	97
Surrogate 4-BFB	%	99	101	100	100	101

SVOC's in water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Date analysed	-	28/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
Phenol	µg/L	<2	<2	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	48	73	64	72	66
Surrogate Phenol-d_6	%	33	55	45	60	40
Surrogate Nitrobenzene-d_5	%	82	124	121	126	124
Surrogate 2-fluorobiphenyl	%	87	125	121	125	122
Surrogate 2,4,6-Tribromophenol	%	77	123	112	119	116
Surrogate *p*-Terphenyl-d_{14}	%	89	134	129	137	134

vTRH(C6-C10)/BTEXN in Water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	27/07/2022	28/07/2022	28/07/2022	28/07/2022	27/07/2022
Date analysed	-	28/07/2022	29/07/2022	29/07/2022	29/07/2022	28/07/2022
TRH C_6 - C_9	µg/L	<10	<100	<100	<100	<10
TRH C_6 - C_{10}	µg/L	<10	<100	<100	<100	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<10	<10	<10	<1
Toluene	µg/L	<1	<10	<10	<10	<1
Ethylbenzene	µg/L	<1	<10	<10	<10	<1
m+p-xylene	µg/L	<2	<20	<20	<20	<2
o-xylene	µg/L	<1	<10	<10	<10	<1
Naphthalene	µg/L	<1	<10	<10	<10	<1
Surrogate Dibromofluoromethane	%	97	95	94	95	96
Surrogate toluene-d8	%	97	97	96	96	97
Surrogate 4-BFB	%	99	101	100	100	101

vTRH(C6-C10)/BTEXN in Water			
Our Reference		301190-6	301190-7
Your Reference	UNITS	TS	TB
Date Sampled		22/07/2022	22/07/2022
Type of sample		Water	Water
Date extracted	-	28/07/2022	28/07/2022
Date analysed	-	29/07/2022	29/07/2022
TRH C_6 - C_9	µg/L	[NA]	<10
TRH C_6 - C_{10}	µg/L	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	[NA]	<10
Benzene	µg/L	115%	<1
Toluene	µg/L	107%	<1
Ethylbenzene	µg/L	120%	<1
m+p-xylene	µg/L	117%	<2
o-xylene	µg/L	114%	<1
Naphthalene	µg/L	[NA]	<1
Surrogate Dibromofluoromethane	%	95	94
Surrogate toluene-d8	%	98	98
Surrogate 4-BFB	%	99	101

svTRH (C10-C40) in Water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Date analysed	-	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
TRH C_{10} - C_{14}	µg/L	<50	50	<50	55	<50
TRH C_{15} - C_{28}	µg/L	<100	500	<100	560	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	550	<50	610	<50
TRH >C_{10} - C_{16}	µg/L	<50	110	<50	120	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	110	<50	120	<50
TRH >C_{16} - C_{34}	µg/L	<100	500	<100	530	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	610	<50	650	<50
Surrogate o-Terphenyl	%	80	84	74	91	81

PAHs in Water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Date analysed	-	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	109	103	97	91	109

Organochlorine Pesticides in Water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Date analysed	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	102	99	94	97	98

OP Pesticides in Water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Date analysed	-	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	102	99	94	97	98

HM in water - dissolved						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
Date analysed	-	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
Aluminium-Dissolved	μg/L	20	10	50	10	<10
Arsenic-Dissolved	μg/L	<1	9	41	10	<1
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	<1	3	4	4	<1
Copper-Dissolved	μg/L	2	<1	<1	<1	<1
Iron-Dissolved	μg/L	37,000	480,000	340,000	490,000	<10
Manganese-Dissolved	μg/L	150	1,400	330	1,400	<5
Lead-Dissolved	μg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	μg/L	9	<1	2	<1	<1
Zinc-Dissolved	μg/L	24	<1	35	<1	<1

Speciated Arsenic						
Our Reference	UNITS	301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference		SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
Date analysed	-	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
Arsenobetaine (ASB)	µg/L	<1	<1	<1	<1	<1
Arsenious Acid, As (III)	µg/L	<1	<1	25	<1	<1
Dimethylarsenic Acid (DMA)	µg/L	<1	<1	<1	<1	<1
Monomethylarsonic Acid (MMA)	µg/L	<1	<1	<1	<1	<1
Arsenic Acid, As (V)	µg/L	<1	<1	16	<1	<1

PFAS in Waters Extended						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022
Perfluorobutanesulfonic acid	µg/L	0.09	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	0.07	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.24	0.03	<0.01	0.02	<0.01
Perfluoroheptanesulfonic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.12	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	0.04	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	0.03	0.02	<0.02	0.02	<0.02
Perfluorohexanoic acid	µg/L	0.22	0.01	0.01	0.01	<0.01
Perfluoroheptanoic acid	µg/L	0.06	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.05	<0.01	<0.01	0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	100	104	100	100	103
Surrogate $^{13}C_2$ *PFOA*	%	110	117	112	114	106
Extracted ISTD $^{13}C_3$ *PFBS*	%	89	91	89	86	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	106	106	108	115	105
Extracted ISTD $^{13}C_4$ *PFOS*	%	98	94	97	97	102
Extracted ISTD $^{13}C_4$ *PFBA*	%	66	56	81	58	114

PFAS in Waters Extended						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	77	73	85	76	102
Extracted ISTD $^{13}C_2$ *PFHxA*	%	93	93	106	99	118
Extracted ISTD $^{13}C_4$ *PFHpA*	%	98	97	108	107	116
Extracted ISTD $^{13}C_4$ *PFOA*	%	87	88	94	93	108
Extracted ISTD $^{13}C_5$ *PFNA*	%	100	103	112	113	122
Extracted ISTD $^{13}C_2$ *PFDA*	%	104	107	118	115	119
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	114	116	119	121	126
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	100	90	101	103	114
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	83	81	80	87	89
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	69	75	88	82	116
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	63	74	87	87	103
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	78	79	104	95	126
Extracted ISTD $^{13}C_8$ *FOSA*	%	93	90	102	99	117
Extracted ISTD d_3 *N MeFOSA*	%	109	108	112	118	119
Extracted ISTD d_5 *N EtFOSA*	%	114	111	112	118	121
Extracted ISTD d_7 *N MeFOSE*	%	102	109	113	115	118
Extracted ISTD d_9 *N EtFOSE*	%	106	104	104	107	107
Extracted ISTD d_3 *N MeFOSAA*	%	76	78	91	84	125
Extracted ISTD d_5 *N EtFOSAA*	%	72	74	88	79	123
Total Positive PFHxS & PFOS	μg/L	0.36	0.03	<0.01	0.02	<0.01
Total Positive PFOA & PFOS	μg/L	0.17	<0.01	<0.01	0.01	<0.01
Total Positive PFAS	μg/L	0.93	0.06	0.04	0.07	<0.01

Acid Herbicides in Water						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Clopyralid	µg/L	<0.5	<5	<5	<5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<5	<5	<5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<5	<5	<5	<0.5
4-CPA	µg/L	<0.5	<5	<5	<5	<0.5
Dicamba	µg/L	<0.5	<5	<5	<5	<0.5
MCPP	µg/L	<0.5	<5	<5	<5	<0.5
MCPA	µg/L	<0.5	<5	<5	<5	<0.5
Dichlorprop	µg/L	<0.5	<5	<5	<5	<0.5
2,4-D	µg/L	<0.5	<5	<5	<5	<0.5
Bromoxynil	µg/L	<0.5	<5	<5	<5	<0.5
Triclopyr	µg/L	<0.5	<5	<5	<5	<0.5
2,4,5-TP	µg/L	<0.5	<5	<5	<5	<0.5
2,4,5-T	µg/L	<0.5	<5	<5	<5	<0.5
MCPB	µg/L	<0.5	<5	<5	<5	<0.5
Dinoseb	µg/L	<1	<10	<10	<10	<1
2,4-DB	µg/L	<0.5	<5	<5	<5	<0.5
Ioxynil	µg/L	<1	<10	<10	<10	<1
Picloram	µg/L	<1	<10	<10	<10	<1
Acifluorfen	µg/L	<2	<20	<20	<20	<2
2,4,6-T	µg/L	<0.5	<5	<5	<5	<0.5
2,6-D	µg/L	<0.5	<5	<5	<5	<0.5
Fluroxypyr	µg/L	<1	<10	<10	<10	<1
Chloramben	µg/L	<1	<10	<10	<10	<1
Bentazon	µg/L	<1	<10	<10	<10	<1
Surrogate 2.4- DCPA	%	72	70	64	62	62

Ion Balance						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022
Date analysed	-	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022
Calcium - Dissolved	mg/L	56	92	43	88	<0.5
Potassium - Dissolved	mg/L	4	180	70	170	<0.5
Sodium - Dissolved	mg/L	1,200	1,800	200	1,600	<0.5
Magnesium - Dissolved	mg/L	160	160	29	150	<0.5
Hardness	mgCaCO 3 /L	780	880	230	860	<3
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	80	440	96	450	<5
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	80	440	96	450	<5
Sulphate, SO4	mg/L	540	56	1,600	54	<1
Chloride, Cl	mg/L	3,200	280	570	270	<1
Ionic Balance	%	-19	70	-54	68	N/A

Miscellaneous Inorganics						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Date analysed	-	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Total Dissolved Solids (grav)	mg/L	4,200	1,000	3,300	940	<5
Hexavalent Chromium, Cr^{6+}	mg/L	<0.050	<0.005	<0.050	<0.005	<0.005
Total Nitrogen in water	mg/L	0.4	13	7.9	14	<0.1
NOx as N in water	mg/L	<0.01	0.03	0.02	<0.01	0.01
Ammonia as N in water	mg/L	0.23	17	6.4	15	<0.005
Phosphate as P in water	mg/L	<0.005	<0.05	<0.05	<0.05	<0.005

Metals in Waters - Acid extractable						
Our Reference		301190-1	301190-2	301190-3	301190-4	301190-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV089	SWM_EN088	QA3	R4
Date Sampled		22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
Date analysed	-	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
Phosphorus - Total	mg/L	<0.05	0.4	0.09	0.3	<0.05

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Metals-031	Analysis of Speciated forms of Arsenic using LC separation followed by ICP-MS analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			27/07/2022	1	27/07/2022	28/07/2022		27/07/2022	[NT]
Date analysed	-			28/07/2022	1	28/07/2022	29/07/2022		28/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	86	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	89	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	95	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	88	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	82	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	1	97	96	1	99	[NT]
Surrogate toluene-d8	%		Org-023	98	1	97	98	1	101	[NT]
Surrogate 4-BFB	%		Org-023	99	1	99	100	1	101	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	5	27/07/2022	28/07/2022		[NT]	[NT]
Date analysed	-			[NT]	5	28/07/2022	29/07/2022		[NT]	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	[NT]	5	8	7	13	[NT]	[NT]
2,2-dichloropropane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Bromodichloromethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	5	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	5	96	96	0	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	5	97	97	0	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	5	101	99	2	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
Date extracted	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	28/07/2022
Date analysed	-			28/07/2022	1	28/07/2022	29/07/2022		28/07/2022	29/07/2022
Phenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	51	47
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	109
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	106
2-Methylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	82	94
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	90	107
4-Chloroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	98	120
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	97	115
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	47	61
Dibenzofuran	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	113	123
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
4-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	97	116
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	101	105
Phenanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	108	126
Anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	104	121
Pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	111	131
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	1	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	1	<2	<2	0	99	125
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	102	130
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	108	107
Hexachloropropene-1	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
2-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	100	120
b-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	96	117
g-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	101	121
Aldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	118	136
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	134
g-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	1	<2	<2	0	113	131
Dieldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	116	134
Endrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	100	127
p,p'-DDD	µg/L	2	Org-022/025	<2	1	<2	<2	0	124	128
Endosulfan II	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	1	<2	<2	0	102	118
Endrin Ketone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	114
Mevinphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	112
Fenitrothion	µg/L	2	Org-022/025	<2	1	<2	<2	0	83	101
Malathion (Maldison)	µg/L	2	Org-022/025	<2	1	<2	<2	0	108	130
Chloropyriphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	108	126
Fenthion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	117
Bromophos Ethyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	1	<2	<2	0	96	115
Phosalone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	63	1	48	44	9	67	67
Surrogate Phenol-d_6	%		Org-022/025	48	1	33	26	24	53	48
Surrogate Nitrobenzene-d_5	%		Org-022/025	103	1	82	69	17	110	120
Surrogate 2-fluorobiphenyl	%		Org-022/025	102	1	87	77	12	104	112
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	91	1	77	72	7	100	110
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	107	1	89	80	11	119	129

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			27/07/2022	1	27/07/2022	28/07/2022		27/07/2022	[NT]
Date analysed	-			28/07/2022	1	28/07/2022	29/07/2022		28/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	108	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	108	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	104	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	102	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	1	97	96	1	99	[NT]
Surrogate toluene-d8	%		Org-023	98	1	97	98	1	101	[NT]
Surrogate 4-BFB	%		Org-023	99	1	99	100	1	101	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	5	27/07/2022	28/07/2022		[NT]	[NT]
Date analysed	-			[NT]	5	28/07/2022	29/07/2022		[NT]	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	[NT]	5	<10	<10	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	5	<2	<2	0	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Naphthalene	µg/L	1	Org-023	[NT]	5	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	5	96	96	0	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	5	97	97	0	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	5	101	99	2	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	[NT]
Date analysed	-			29/07/2022	1	29/07/2022	29/07/2022		28/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	81	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	83	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	81	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	83	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
Surrogate o-Terphenyl	%		Org-020	74	1	80	77	4	74	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	28/07/2022	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	29/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	85	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	88	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	85	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	88	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
Date extracted	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	28/07/2022
Date analysed	-			29/07/2022	1	29/07/2022	29/07/2022		29/07/2022	29/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	92	92
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	89	89
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	101	99
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	102	104
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	98	100
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	99	101
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	81	91
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	88	96
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	86	1	109	92	17	107	103

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
Date extracted	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	28/07/2022
Date analysed	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	28/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	88	90
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	96	96
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	95	97
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	97	97
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	92	94
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	90
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	96	96
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	76	100
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	98	102
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	92	94
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	1	102	94	8	109	99

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	301190-5
Date extracted	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	28/07/2022
Date analysed	-			28/07/2022	1	28/07/2022	28/07/2022		28/07/2022	28/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	110	117
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	83	87
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	99	113
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	116	132
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	100	108
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	91	105
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	94
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	94	1	102	94	8	109	99

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	301190-2
Date prepared	-			26/07/2022	1	26/07/2022	26/07/2022		26/07/2022	26/07/2022
Date analysed	-			26/07/2022	1	26/07/2022	26/07/2022		26/07/2022	26/07/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	20	[NT]		112	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		90	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	[NT]		91	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		90	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	[NT]		88	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	37000	[NT]		90	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	150	[NT]		91	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	95	#
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	9	[NT]		88	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	24	[NT]		89	[NT]

QUALITY CONTROL: Speciated Arsenic					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301190-4
Date prepared	-			26/07/2022	1	26/07/2022	26/07/2022		26/07/2022	26/07/2022
Date analysed	-			26/07/2022	1	26/07/2022	26/07/2022		26/07/2022	26/07/2022
Arsenobetaine (ASB)	µg/L	1	Metals-031	<1	1	<1	<1	0	101	99
Arsenious Acid, As (III)	µg/L	1	Metals-031	<1	1	<1	<1	0	85	#
Dimethylarsenic Acid (DMA)	µg/L	1	Metals-031	<1	1	<1	<1	0	102	97
Monomethylarsonic Acid (MMA)	µg/L	1	Metals-031	<1	1	<1	<1	0	102	96
Arsenic Acid, As (V)	µg/L	1	Metals-031	<1	1	<1	<1	0	109	105

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			25/07/2022	1	25/07/2022	25/07/2022		25/07/2022	[NT]
Date analysed	-			25/07/2022	1	25/07/2022	25/07/2022		25/07/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.09	0.08	12	107	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.07	0.08	13	99	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.24	0.24	0	101	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.02	67	102	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.12	0.12	0	101	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	93	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	0.04	0.04	0	102	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	0.03	0.04	29	99	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.22	0.21	5	99	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	0.06	0.06	0	94	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.05	0.06	18	98	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	96	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	94	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	102	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	91	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	93	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	92	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	0.01	0	99	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	93	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	100	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	93	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	104	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	114	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	100	1	100	95	5	97	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	108	1	110	111	1	109	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ PFBS	%		Org-029	102	1	89	90	1	99	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	98	1	106	102	4	99	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	107	1	98	98	0	103	[NT]
Extracted ISTD $^{13}C_4$ PFBA	%		Org-029	110	1	66	64	3	109	[NT]
Extracted ISTD $^{13}C_3$ PFPeA	%		Org-029	105	1	77	74	4	106	[NT]
Extracted ISTD $^{13}C_2$ PFHxA	%		Org-029	108	1	93	88	6	109	[NT]
Extracted ISTD $^{13}C_4$ PFHpA	%		Org-029	116	1	98	91	7	115	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	109	1	87	80	8	108	[NT]
Extracted ISTD $^{13}C_5$ PFNA	%		Org-029	117	1	100	97	3	121	[NT]
Extracted ISTD $^{13}C_2$ PFDA	%		Org-029	122	1	104	103	1	120	[NT]
Extracted ISTD $^{13}C_2$ PFUnDA	%		Org-029	128	1	114	112	2	131	[NT]
Extracted ISTD $^{13}C_2$ PFDoDA	%		Org-029	121	1	100	90	11	118	[NT]
Extracted ISTD $^{13}C_2$ PFTeDA	%		Org-029	78	1	83	77	8	87	[NT]
Extracted ISTD $^{13}C_2$ 4:2FTS	%		Org-029	127	1	69	54	24	127	[NT]
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	129	1	63	53	17	133	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	146	1	78	68	14	140	[NT]
Extracted ISTD $^{13}C_8$ FOSA	%		Org-029	120	1	93	87	7	119	[NT]
Extracted ISTD d_3 N MeFOSA	%		Org-029	109	1	109	106	3	110	[NT]
Extracted ISTD d_5 N EtFOSA	%		Org-029	114	1	114	113	1	115	[NT]
Extracted ISTD d_7 N MeFOSE	%		Org-029	108	1	102	108	6	102	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	104	1	106	101	5	108	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	140	1	76	70	8	140	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	132	1	72	66	9	137	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			03/08/2022	[NT]	[NT]	[NT]	[NT]	03/08/2022	[NT]
Date analysed	-			04/08/2022	[NT]	[NT]	[NT]	[NT]	04/08/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	62	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	70	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	80	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	64	[NT]	[NT]	[NT]	[NT]	78	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			25/07/2022	1	25/07/2022	25/07/2022		25/07/2022	[NT]
Date analysed	-			25/07/2022	1	25/07/2022	25/07/2022		25/07/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	56	[NT]		98	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	4	[NT]		102	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	1200	[NT]		105	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	160	[NT]		99	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	<3	1	780	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	80	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	80	[NT]		84	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	540	560	4	94	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	3200	3100	3	101	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	-19	[NT]		[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Date analysed	-			22/07/2022	[NT]	[NT]	[NT]	[NT]	22/07/2022	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	[NT]	[NT]	[NT]	[NT]	100	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	101	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	[NT]	[NT]	[NT]	[NT]	109	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	[NT]	[NT]	[NT]	[NT]	115	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			26/07/2022	[NT]	[NT]	[NT]	[NT]	26/07/2022	[NT]
Date analysed	-			26/07/2022	[NT]	[NT]	[NT]	[NT]	26/07/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	111	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG
PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.

Speciated Arsenic:
- A plastic bottle with Hydrochloric Acid preservation should be supplied for Arsenic Speciation. Arseic SPeciation analysis was conducted using different containers (40mL glass vials Hydrochloric Acid preserved samples), there is a possibility results might be underestimated.
- # Low spike recovery was obtained for this sample. Sample matrix interference is suspected. However, an acceptable recovery was obtained for the LCS

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

8 HM in water - dissolved - # Low spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the low recovery was confirmed. This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

The mass imbalance may be caused different preservation of the samples for the cations the preservation of HNO3 and filtration was used while for anions the non-preservation of the bottle was used.

Acid Herbicides analysed by Envirolab Services Melbourne. Report No. 32871
- have exceeded the recommended technical holding times, Envirolab Group Form 347 "Recommended Preservation and Holding Times" can be provided on request (available on the Envirolab website)
- PQL has been raised due to the sample matrix requiring dilution.

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	Steve Rocks

Sample Login Details	
Your reference	SC210108.01 / SMW WTP GWMP
Envirolab Reference	301190
Date Sample Received	22/07/2022
Date Instructions Received	22/07/2022
Date Results Expected to be Reported	29/07/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	7 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	5
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	VOCs in water	SVOC's in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	HM in water - dissolved	Speciated Arsenic	PFAS in Waters Extended	Acid Herbicides in Water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	Total Dissolved Solids(grav)	Hexavalent Chromium, Cr6+	Total Nitrogen in water	NOx as N in water	Ammonia as N in water	Phosphate as P in water	Metals in Waters -Acid extractable
SMW_ENV083	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SMW_ENV089	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SWM_EN088	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
QA3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TS			✓																											
TB			✓																											

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt. Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

CHAIN OF CUSTODY FORM - Client

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ENVIROLAB GROUP
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Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820
08 8967 1201 | darwin@envirolab.com.au

Company:	Epic Environmental	Client Project Name/Number/Site etc (ie report title):	SMW WTP GWMP / SC210108.01
Contact Person:	Murti Purohit		
Project Mgr:	David Harris	PO No. (if applicable):	
Sampler:	MP, JX	Envirolab Quote No. :	
Address:		Date results required: Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day	
Phone:	Mob: 0498516850	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*	
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au	Additional report format: ☑ Esdat ☐ Equis	
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au	Lab Comments:	

Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	Combo 5b	Ionic balance	TDS	CrVI	Nutrient suite	Phenoxy acid herbicides	VOC / SVOC	PFAS	Arsenic Speciation	BTEX	Comments: Provide as much information about the sample as you can
1	SMW_ENV083		22/07/2022 08:30	Water	X	X	X	X	X	X	X	X	X		Metals to test: Al, As, Cd, Cr, Cu, Hg, Pb, Ni, Zn, Mn, Fe
2	SMW_ENV089		22/072022 9:30	Water	X	X	X	X	X	X	X	X	-X		
3	SWM_EN088		22/072022 12:30	Water	X	X	X	X	X	X	X	X	X		
4	QA3		22/07/2022	Water	X	X	X	X	X	X	X	X	X		
5	R4		22/07/2022	Water	X	X	X	X	X	X	X	X	X		
6	TS		22/07/2022	Water										X	
7	TB		22/07/2022	Water										X	

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company): Epic	Received by (Company): ELS SYD	*Lab Use Only*	
Print Name: Joy Jieli XIE	Print Name: TSHAN	Job number: 301190	Cooling: Ice / Ice pack / None
Date & Time: 22/07/2022 16:00	Date & Time: 22-7-2022 1215	Temperature: 5°C	Security seal: Intact / Broken / None
Signature: JX	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

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CERTIFICATE OF ANALYSIS 302829

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Todd O'Brien
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, Westmead Station**
Number of Samples	8 Water
Date samples received	11/08/2022
Date completed instructions received	11/08/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	18/08/2022
Date of Issue	18/08/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Hannah Nguyen, Metals Supervisor
Josh Williams, Organics and LC Supervisor
Kyle Gavrily, Senior Chemist
Loren Bardwell, Development Chemist
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	13/08/2022	13/08/2022	13/08/2022	13/08/2022	13/08/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<5	<1	<5
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	31	<1	30
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	2	<1	2
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	3	<1	3
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	100	106	99	99	99
Surrogate toluene-d8	%	94	95	95	94	97
Surrogate 4-BFB	%	103	104	95	103	95

vTRH(C6-C10)/BTEXN in Water						
Our Reference		302829-1	302829-2	302829-3	302829-4	302829-5
Your Reference	UNITS	TB 8/8	TS 8/8	ENV_299	ENV_300	ENV_294
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/08/2022	15/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	16/08/2022	16/08/2022	13/08/2022	13/08/2022	13/08/2022
TRH C_6 - C_9	µg/L	<10	[NA]	<10	<10	56
TRH C_6 - C_{10}	µg/L	<10	[NA]	<10	<10	120
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	[NA]	<10	<10	120
Benzene	µg/L	<1	101%	<1	<1	<1
Toluene	µg/L	<1	97%	<1	<1	<1
Ethylbenzene	µg/L	<1	99%	<1	<1	<1
m+p-xylene	µg/L	<2	94%	<2	<2	<2
o-xylene	µg/L	<1	94%	<1	<1	<1
Naphthalene	µg/L	<1	[NT]	<1	<1	<1
Surrogate Dibromofluoromethane	%	95	102	100	106	99
Surrogate toluene-d8	%	96	101	94	95	95
Surrogate 4-BFB	%	100	98	103	104	95

vTRH(C6-C10)/BTEXN in Water			
Our Reference		302829-6	302829-7
Your Reference	UNITS	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022
Type of sample		Water	Water
Date extracted	-	12/08/2022	12/08/2022
Date analysed	-	13/08/2022	13/08/2022
TRH C_6 - C_9	µg/L	<10	54
TRH C_6 - C_{10}	µg/L	<10	120
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	120
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Naphthalene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	99	99
Surrogate toluene-d8	%	94	97
Surrogate 4-BFB	%	103	95

svTRH (C10-C40) in Water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	13/08/2022	13/08/2022	13/08/2022	13/08/2022	13/08/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	71	<50	58
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	70	<50	60
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	81	77	87	82

PAHs in Water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	84	83	96	88

Organochlorine Pesticides in Water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	84	81	78	91	82

OP Pesticides in Water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	84	81	78	91	82

PCBs in Water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCMX	%	84	81	78	91	82

Total Phenolics in Water						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/08/2022	15/08/2022	15/08/2022	15/08/2022	15/08/2022
Date analysed	-	15/08/2022	15/08/2022	15/08/2022	15/08/2022	15/08/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

HM in water - dissolved						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Date analysed	-	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
Aluminium-Dissolved	µg/L	480	2,100	80	10	90
Arsenic-Dissolved	µg/L	<1	<1	1	2	<1
Cadmium-Dissolved	µg/L	0.1	0.2	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	1	<1	1
Copper-Dissolved	µg/L	7	3	14	5	10
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	59	130	8	5	7
Zinc-Dissolved	µg/L	200	540	34	16	31
Iron-Dissolved	µg/L	40	30	1,700	<10	1,600
Manganese-Dissolved	µg/L	2,000	4,900	140	170	130

HM in water - dissolved		
Our Reference		302829-8
Your Reference	UNITS	WM_RM01
Date Sampled		10/08/2022
Type of sample		Water
Date prepared	-	12/08/2022
Date analysed	-	12/08/2022
Aluminium-Dissolved	µg/L	<10
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	<1
Iron-Dissolved	µg/L	<10
Manganese-Dissolved	µg/L	<5

Metals in Water - Dissolved						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date digested	-	17/08/2022	17/08/2022	17/08/2022	17/08/2022	17/08/2022
Date analysed	-	17/08/2022	17/08/2022	17/08/2022	17/08/2022	17/08/2022
Silicon*- Dissolved	mg/L	31	8.2	49	9.3	50

Miscellaneous Inorganics						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/08/2022	11/08/2022	11/08/2022	11/08/2022	11/08/2022
Date analysed	-	11/08/2022	11/08/2022	11/08/2022	11/08/2022	11/08/2022
pH	pH Units	5.5	6.4	5.1	7.6	5.0
Electrical Conductivity	µS/cm	2,000	4,000	630	4,200	640
Total Dissolved Solids (grav)	mg/L	1,200	2,400	380	2,800	600
Nitrate as N in water	mg/L	0.03	0.05	<0.005	2.3	<0.005

Ion Balance						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/08/2022	11/08/2022	11/08/2022	11/08/2022	11/08/2022
Date analysed	-	11/08/2022	11/08/2022	11/08/2022	11/08/2022	11/08/2022
Calcium - Dissolved	mg/L	3	6.5	0.7	41	0.7
Potassium - Dissolved	mg/L	7.4	14	1	30	1
Sodium - Dissolved	mg/L	380	650	130	700	120
Magnesium - Dissolved	mg/L	11	33	2	79	2
Hardness	mgCaCO 3 /L	50	150	9.6	430	9.3
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	51	220	21	1,100	20
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	51	220	21	1,100	20
Sulphate, SO4	mg/L	570	1,100	190	630	200
Chloride, Cl	mg/L	210	450	32	430	32
Ionic Balance	%	-2.0	-3.0	7.0	-5.0	1.0

PFAS in Water TRACE Short						
Our Reference		302829-3	302829-4	302829-5	302829-6	302829-7
Your Reference	UNITS	ENV_299	ENV_300	ENV_294	WTP_BH31A	WM_QC01
Date Sampled		10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	16/08/2022	16/08/2022	16/08/2022	16/08/2022	16/08/2022
Date analysed	-	16/08/2022	16/08/2022	16/08/2022	16/08/2022	16/08/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.0002	<0.0002	0.0029	<0.0002	<0.0002
Perfluorooctanesulfonic acid PFOS	µg/L	<0.0002	<0.0002	0.0029	0.0006	<0.0002
Perfluorooctanoic acid PFOA	µg/L	0.0004	<0.0002	0.011	<0.0002	0.0090
6:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	101	103	101	101	96
Surrogate $^{13}C_2$ *PFOA*	%	124	127	123	125	119
Extracted ISTD $^{18}O_2$ *PFHxS*	%	114	117	106	139	117
Extracted ISTD $^{13}C_4$ *PFOS*	%	74	77	55	88	64
Extracted ISTD $^{13}C_4$ *PFOA*	%	80	100	83	113	100
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	138	#	148	#	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	#	#	#	#	#
Total Positive PFHxS & PFOS	µg/L	<0.0002	<0.0002	0.0058	0.0006	<0.0002
Total Positive PFOS & PFOA	µg/L	0.0004	<0.0002	0.014	0.0006	0.0090
Total Positive PFAS	µg/L	0.0004	<0.0002	0.017	0.0006	0.0090

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			12/08/2022	5	12/08/2022	15/08/2022		12/08/2022	[NT]
Date analysed	-			13/08/2022	5	13/08/2022	16/08/2022		13/08/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	5	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	5	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	5	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	5	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	5	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	5	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	5	<1	<1	0	86	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	5	<1	<1	0	90	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	5	<1	<1	0	89	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	5	<1	<1	0	90	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	5	<5	<5	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	5	<1	<1	0	104	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	5	<1	<1	0	87	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	5	<1	<1	0	87	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	5	<1	<1	0	96	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	5	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	5	31	32	3	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	5	2	2	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	5	3	3	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	94	5	99	100	1	96	[NT]
Surrogate toluene-d8	%		Org-023	94	5	95	97	2	99	[NT]
Surrogate 4-BFB	%		Org-023	106	5	95	92	3	103	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	7	12/08/2022	15/08/2022		[NT]	[NT]
Date analysed	-			[NT]	7	13/08/2022	16/08/2022		[NT]	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	[NT]	7	<5	<5	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromodichloromethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	7	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	[NT]	7	30	32	6	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	[NT]	7	2	2	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	[NT]	7	3	3	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	7	99	100	1	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	7	97	97	0	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	7	95	92	3	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			12/08/2022	5	12/08/2022	15/08/2022		12/08/2022	[NT]
Date analysed	-			13/08/2022	5	13/08/2022	16/08/2022		13/08/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	5	56	51	9	96	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	5	120	110	9	96	[NT]
Benzene	µg/L	1	Org-023	<1	5	<1	<1	0	94	[NT]
Toluene	µg/L	1	Org-023	<1	5	<1	<1	0	92	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	5	<1	<1	0	99	[NT]
m+p-xylene	µg/L	2	Org-023	<2	5	<2	<2	0	98	[NT]
o-xylene	µg/L	1	Org-023	<1	5	<1	<1	0	98	[NT]
Naphthalene	µg/L	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	94	5	99	100	1	96	[NT]
Surrogate toluene-d8	%		Org-023	94	5	95	97	2	99	[NT]
Surrogate 4-BFB	%		Org-023	106	5	95	92	3	103	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	7	12/08/2022	15/08/2022		[NT]	[NT]
Date analysed	-			[NT]	7	13/08/2022	16/08/2022		[NT]	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	[NT]	7	54	42	25	[NT]	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	[NT]	7	120	100	18	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	7	<2	<2	0	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Naphthalene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	7	99	100	1	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	7	97	97	0	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	7	95	92	3	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	302829-4
Date extracted	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Date analysed	-			13/08/2022	3	13/08/2022	13/08/2022		13/08/2022	13/08/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	3	<50	<50	0	102	100
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	3	<100	<100	0	101	99
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	3	<100	<100	0	100	80
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	3	<50	<50	0	102	100
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	3	<100	<100	0	101	99
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	3	<100	<100	0	100	80
Surrogate o-Terphenyl	%		Org-020	84	3	81	83	2	107	102

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	302829-5
Date extracted	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Date analysed	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Naphthalene	µg/L	1	Org-022/025	<1	3	<1	<1	0	71	67
Acenaphthylene	µg/L	1	Org-022/025	<1	3	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	3	<1	<1	0	77	73
Fluorene	µg/L	1	Org-022/025	<1	3	<1	<1	0	80	76
Phenanthrene	µg/L	1	Org-022/025	<1	3	<1	<1	0	82	79
Anthracene	µg/L	1	Org-022/025	<1	3	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	3	<1	<1	0	82	80
Pyrene	µg/L	1	Org-022/025	<1	3	<1	<1	0	89	85
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	3	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	3	<1	<1	0	79	77
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	3	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	3	<1	<1	0	82	80
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	3	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	3	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	3	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	88	3	88	88	0	90	86

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	302829-5
Date extracted	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Date analysed	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	82	76
HCB	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	78	78
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	85	83
delta-BHC	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	83	77
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	86	82
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	84	80
Dieldrin	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	82	78
Endrin	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	86	84
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	84	84
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	82	82
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	86	3	84	85	1	85	79

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	302829-5
Date extracted	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Date analysed	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	106	115
Dimethoate	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	75	73
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	95	97
Malathion	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	118	118
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	88	84
Parathion	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	89	89
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	80	82
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	3	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	86	3	84	85	1	85	79

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	302829-5
Date extracted	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Date analysed	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Aroclor 1016	µg/L	2	Org-021	<2	3	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021	<2	3	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021	<2	3	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021	<2	3	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021	<2	3	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021	<2	3	<2	<2	0	99	80
Aroclor 1260	µg/L	2	Org-021	<2	3	<2	<2	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	86	3	84	85	1	85	79

QUALITY CONTROL: Total Phenolics in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	302829-4
Date extracted	-			15/08/2022	3	15/08/2022	15/08/2022		15/08/2022	15/08/2022
Date analysed	-			15/08/2022	3	15/08/2022	15/08/2022		15/08/2022	15/08/2022
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	3	<0.05	<0.05	0	102	82

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	302829-4
Date prepared	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Date analysed	-			12/08/2022	3	12/08/2022	12/08/2022		12/08/2022	12/08/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	3	480	480	0	92	#
Arsenic-Dissolved	µg/L	1	Metals-022	<1	3	<1	<1	0	97	100
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	3	0.1	0.1	0	93	97
Chromium-Dissolved	µg/L	1	Metals-022	<1	3	<1	<1	0	96	95
Copper-Dissolved	µg/L	1	Metals-022	<1	3	7	7	0	102	101
Lead-Dissolved	µg/L	1	Metals-022	<1	3	<1	<1	0	103	100
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	3	<0.05	<0.05	0	100	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	3	59	59	0	102	99
Zinc-Dissolved	µg/L	1	Metals-022	<1	3	200	200	0	96	#
Iron-Dissolved	µg/L	10	Metals-022	<10	3	40	40	0	93	79
Manganese-Dissolved	µg/L	5	Metals-022	<5	3	2000	2000	0	90	#

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	302829-4
Date digested	-			17/08/2022	3	17/08/2022	17/08/2022		17/08/2022	17/08/2022
Date analysed	-			17/08/2022	3	17/08/2022	17/08/2022		17/08/2022	17/08/2022
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	3	31	29	7	100	94

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	302829-4
Date prepared	-			11/08/2022	3	11/08/2022	11/08/2022		11/08/2022	11/08/2022
Date analysed	-			11/08/2022	3	11/08/2022	11/08/2022		11/08/2022	11/08/2022
pH	pH Units		Inorg-001	[NT]	3	5.5	5.5	0	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	3	2000	2000	0	95	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	3	1200	[NT]		98	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	3	0.03	0.02	40	101	99

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	6	11/08/2022	11/08/2022		[NT]	[NT]
Date analysed	-			[NT]	6	11/08/2022	11/08/2022		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	6	7.6	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	6	4200	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	6	2800	2800	0	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	6	2.3	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			11/08/2022	3	11/08/2022	11/08/2022		11/08/2022	[NT]
Date analysed	-			11/08/2022	3	11/08/2022	11/08/2022		11/08/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	3	3	0	91	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	7.4	7.3	1	90	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	380	380	0	98	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	3	11	10	10	96	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	3	50	49	2	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	51	53	4	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	3	51	53	4	102	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	3	570	[NT]		91	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	3	210	[NT]		100	[NT]
Ionic Balance	%		Inorg-040	[NT]	3	-2.0	[NT]		[NT]	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			16/08/2022	[NT]	[NT]	[NT]	[NT]	16/08/2022	[NT]
Date analysed	-			16/08/2022	[NT]	[NT]	[NT]	[NT]	16/08/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	93	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	110	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	106	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	111	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	75	[NT]	[NT]	[NT]	[NT]	80	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD$^{13}C_2$ 6:2FTS	%		Org-029	133	[NT]	[NT]	[NT]	[NT]	134	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	104	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

8 HM in water - dissolved - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

'Analyte' Extracted Internal Standard is outside of global acceptance criteria (50-150%) for (LCS and/or MB) but within analyte specific acceptance criteria.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	Todd O'Brien

Sample Login Details	
Your reference	SC210108.01, Westmead Station
Envirolab Reference	302829
Date Sample Received	11/08/2022
Date Instructions Received	11/08/2022
Date Results Expected to be Reported	18/08/2022

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	8 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	6
Cooling Method	Ice Pack,Ice
Sampling Date Provided	YES

Comments

Sample #8 - labelled a s WM_RBO1 - assumed as WM_RMO1 in COC

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHsin Water	Organochlorine Pesticides in Water	OP Pesticides in Water	PCBs in Water	Total Phenolicsin Water	HM in water - dissolved	Metals in Water - Dissolved	pH	Electrical Conductivity	Total Dissolved Solids(grav)	Nitrate as N in water	Calcium - Dissolved	Potassium - Dissolved	Sodium - Dissolved	Magnesium - Dissolved	Hardness	Hydroxide Alkalinity (OH-) as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Alkalinity as CaCO3	Sulphate, SO4	Chloride, Cl	Ionic Balance	PFAS in Water TRACE Short
TB 8/8		✓																									
TS 8/8		✓																									
ENV_299	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENV_300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENV_294	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WTP_BH31A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WM_QC01	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WM_RM01		✓	✓	✓	✓	✓	✓	✓	✓																		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 302829

Date Received: 11.08.22
Time Received: 1100
Received By: G Bartlett
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01	Lab:	
Project/Site:	Westmead Station	Lab Quote No:	
Sampled By:	NATALIE CHANDRA	Lab Batch No:	
Phone / Email:	nchandra@epicenvironmental.com.au	Date Results Required:	STANDARD
Results to:	tobrien@epicenvironmental.com.au		
Page	1 of 1	Sample Disposal After:	
Number of Eskies:	2 eskies	CONTAINER TYPE & PRESERVATIVE	

	LAB ID	Sample ID	Depth (m)	Date/Time	Matrix	Glass Jar	ON HOLD	Metals	Combo 8 + Aluminium	VOC	PFAS (short and trace)	Source water analysis	TRH, BTEXN, C6, C10		
1	1	TB 8/8		10/08/2022	Water								x		
2	2	TS 8/8		10/08/2022	Water								x		
3	3	ENV_299		10/08/2022	Water				x	x	x	x			
4	4	ENV_300		10/08/2022	Water				x	x	x	x			
5	5	ENV_294		10/08/2022	Water				x	x	x	x			
6	6	WTP_BH31A		10/08/2022	Water				x	x	x	x			
7	7	WM_QC01			Water				x	x	x	x			
8	8	WM_RM01		10/08/2022	Water				x						
extra 9	9	WM-QC02													
	10														
	11														
	12														
	13														
	14														
	15														
	16														
	17														
	18														
	19														
	20														
					TOTALS		0	0	6	5	5	5	2	0	0

Relinquished By:
NAME NATALIE CHANDRA SIGNATURE NC DATE 11/08/2022

Received By: ELS SYD
NAME G Bartlett SIGNATURE DATE 11.08.22

Custody Seals Intact Y N
Samples Received Chilled Y N 6°C
Method of Shipment courier

NOTES: Analysis to come via email.

COC rec'd: 11/8/22 @ 1428

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01	Lab:	
Project/Site:	Westmead Station	Lab Quote No:	
Sampled By:	NATALIE CHANDRA	Lab Batch No:	
Phone / Email:	nchandra@epicenvironmental.com.au	Date Results Required:	STANDARD
Results to:	tobrien@epicenvironmental.com.au		
Page	1 of 1	Sample Disposal After:	
Number of Eskies:	2 eskies	CONTAINER TYPE & PRESERVATIVE	

LAB ID	Sample ID	Depth (m)	Date/Time	Matrix	Glass Jar								ON HOLD	S26	PFAS	VOCs					
														X	X	X					
1	WM_QC02			Water																	
				TOTALS									0	1	1	1	0	0	0	0	0

Relinquished By:				Received By:			Custody Seals Intact Y N
							Samples Received Chilled Y N
NAME NATALIE CHANDRA	SIGNATURE NC	DATE	11/08/2022	NAME	SIGNATURE	DATE	Method of Shipment

NOTES: Analysis to come via email.

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Level 6, 193 North Quay, Brisbane QLD 4000

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CERTIFICATE OF ANALYSIS 300303

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Todd O'Brien
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, CZ1**
Number of Samples	10 Water
Date samples received	13/07/2022
Date completed instructions received	13/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	20/07/2022
Date of Issue	26/07/2022
Reissue Details	This report replaces R00 created on 21/07/2022 due to: revised report with additional results (Al for Sample #2).

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Results Approved By
Amanda Chui, Air Toxics Team Leader
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Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	104	97	97	103
Surrogate toluene-d8	%	98	98	97	98	97
Surrogate 4-BFB	%	98	102	98	101	99

VOCs in water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	103	97	96
Surrogate toluene-d8	%	97	97	98
Surrogate 4-BFB	%	99	101	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	104	97	97	103
Surrogate toluene-d8	%	98	98	97	98	97
Surrogate 4-BFB	%	98	102	98	101	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300303-6	300303-7	300303-8	300303-9	300303-10
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207	TS	TB
Date Sampled		12/07/2022	12/07/2022	12/07/2022	11/07/2022	11/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	88%	<1
Toluene	µg/L	<1	<1	<1	92%	<1
Ethylbenzene	µg/L	<1	<1	<1	112%	<1
m+p-xylene	µg/L	<2	<2	<2	109%	<2
o-xylene	µg/L	<1	<1	<1	112%	<1
Naphthalene	µg/L	<1	<1	<1	[NT]	<1
Surrogate Dibromofluoromethane	%	103	97	96	99	97
Surrogate toluene-d8	%	97	97	98	99	97
Surrogate 4-BFB	%	99	101	99	97	98

svTRH (C10-C40) in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	100
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	100
Surrogate o-Terphenyl	%	81	85	92	78	83

svTRH (C10-C40) in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	240	160	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	240	160	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	220	140	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	220	140	<50
Surrogate o-Terphenyl	%	85	85	80

PAHs in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	81	82	90	74	84

PAHs in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	87	79

Organochlorine Pesticides in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	88	90	83	88

Organochlorine Pesticides in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	86	84

OP Pesticides in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	88	90	83	88

OP Pesticides in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	86	84

PCBs in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCMX	%	83	88	90	83	88

PCBs in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Aroclor 1016	µg/L	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2
Surrogate TCMX	%	86	86	84

Total Phenolics in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Total Phenolics in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05

HM in water - dissolved						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	2	5	<1	6	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	0.2	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	8	<1	1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	14	10	35	3	7
Zinc-Dissolved	µg/L	8	12	91	<1	8
Iron-Dissolved	µg/L	990	20,000	6,500	75,000	30
Manganese-Dissolved	µg/L	460	350	1,000	2,900	520
Aluminium-Dissolved	µg/L	[NA]	<10	[NA]	[NA]	[NA]

HM in water - dissolved				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	<1	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	4	10	5
Zinc-Dissolved	µg/L	4	22	9
Iron-Dissolved	µg/L	40	370	470
Manganese-Dissolved	µg/L	240	920	420

Metals in Water - Dissolved						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date digested	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	10	10	12	7.5	20

Metals in Water - Dissolved				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date digested	-	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	16	19	14

Miscellaneous Inorganics						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.050	<0.005	<0.050	<0.005
pH	pH Units	6.8	6.1	5.7	6.4	6.3
Electrical Conductivity	µS/cm	5,100	26,000	43,000	48,000	10,000
Total Dissolved Solids (grav)	mg/L	2,800	16,000	34,000	40,000	7,000
Nitrate as N in water	mg/L	0.02	<0.005	<0.005	<0.01	0.01
Total Nitrogen in water	mg/L	0.8	0.7	1.0	1.6	0.2
TKN in water	mg/L	0.7	0.7	1.0	1.6	0.2
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	<0.010	<0.005
NOx as N in water	mg/L	0.02	<0.005	<0.005	<0.01	0.01
Ammonia as N in water	mg/L	0.29	0.63	0.80	1.4	0.036
Organic Nitrogen as N	mg/L	0.4	<0.2	0.2	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.05	<0.005	<0.05	<0.005

Miscellaneous Inorganics				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005
pH	pH Units	6.4	5.9	6.4
Electrical Conductivity	µS/cm	7,600	19,000	17,000
Total Dissolved Solids (grav)	mg/L	4,100	13,000	11,000
Nitrate as N in water	mg/L	0.14	<0.005	<0.005
Total Nitrogen in water	mg/L	0.3	0.2	0.2
TKN in water	mg/L	0.1	0.2	0.2
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005
NOx as N in water	mg/L	0.1	<0.005	<0.005
Ammonia as N in water	mg/L	0.020	0.044	0.057
Organic Nitrogen as N	mg/L	<0.2	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005

Metals in Waters - Total						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Phosphorus - Total	mg/L	0.9	<0.05	<0.05	<0.05	<0.05

Metals in Waters - Total				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05

Ion Balance						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	170	240	510	800	65
Potassium - Dissolved	mg/L	24	10	82	87	4
Sodium - Dissolved	mg/L	1,200	3,900	7,400	8,100	1,400
Magnesium - Dissolved	mg/L	230	690	510	1,500	190
Hardness	mgCaCO 3 /L	1,300	3,400	3,300	8,200	930
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	540	320	84	590	220
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	540	320	84	590	220
Sulphate, SO4	mg/L	280	550	1,700	1,300	320
Chloride, Cl	mg/L	1,200	8,900	16,000	18,000	3,100
Ionic Balance	%	24	-5.0	-11	-3.0	-9.0

Ion Balance				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	29	100	170
Potassium - Dissolved	mg/L	2	6.4	7.2
Sodium - Dissolved	mg/L	1,100	2,900	2,500
Magnesium - Dissolved	mg/L	86	400	430
Hardness	mgCaCO 3 /L	420	1,900	2,200
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	210	130	310
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	210	130	310
Sulphate, SO4	mg/L	210	650	450
Chloride, Cl	mg/L	2,200	6,200	5,600
Ionic Balance	%	-11	-8.0	-6.0

Dissolved Gases in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Methane	µg/L	8	<5	<5	8	<5

Dissolved Gases in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Methane	µg/L	<5	12	7

PFAS in Water TRACE Short						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.046	<0.0002	0.0025	<0.0002	0.69
Perfluorooctanesulfonic acid PFOS	µg/L	0.040	<0.0002	0.0002	0.0007	0.60
Perfluorooctanoic acid PFOA	µg/L	0.15	<0.0002	0.0004	<0.0002	0.089
6:2 FTS	µg/L	0.0004	<0.0004	0.002	<0.0004	0.075
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	105	96	99	95	93
Surrogate $^{13}C_2$ *PFOA*	%	103	106	104	97	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	66	82	84	65	146
Extracted ISTD $^{13}C_4$ *PFOS*	%	74	90	96	83	141
Extracted ISTD $^{13}C_4$ *PFOA*	%	139	77	78	33	55
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	108	93	100	92	109
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	122	103	106	118	124
Total Positive PFHxS & PFOS	µg/L	0.086	<0.0002	0.0027	0.0007	1.3
Total Positive PFOS & PFOA	µg/L	0.19	<0.0002	0.0006	0.0007	0.69
Total Positive PFAS	µg/L	0.23	<0.0002	0.0047	0.0007	1.5

PFAS in Water TRACE Short				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.42	0.095	1.3
Perfluorooctanesulfonic acid PFOS	µg/L	0.99	0.021	0.42
Perfluorooctanoic acid PFOA	µg/L	0.085	0.014	0.13
6:2 FTS	µg/L	0.19	0.001	0.061
8:2 FTS	µg/L	0.026	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	90	89	97
Surrogate $^{13}C_2$ *PFOA*	%	106	103	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	144	73	145
Extracted ISTD $^{13}C_4$ *PFOS*	%	135	91	134
Extracted ISTD $^{13}C_4$ *PFOA*	%	49	48	126
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	120	82	84
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	125	95	104
Total Positive PFHxS & PFOS	µg/L	1.4	0.12	1.7
Total Positive PFOS & PFOA	µg/L	1.1	0.035	0.55
Total Positive PFAS	µg/L	1.7	0.13	1.9

Method ID	Methodology Summary
AT-006	Dissolved gases determined by GC-FID based on draft method USEPA SOP RSK175
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			14/07/2022	[NT]	[NT]	[NT]	[NT]	14/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	82	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	81	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			14/07/2022	[NT]	[NT]	[NT]	[NT]	14/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	89	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	[NT]
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	2	<50	<50	0	94	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	2	<100	<100	0	96	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	2	<50	<50	0	94	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	2	<100	<100	0	96	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	90	2	85	87	2	83	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	2	<1	<1	0	80	82
Acenaphthylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	79	81
Fluorene	µg/L	1	Org-022/025	<1	2	<1	<1	0	78	86
Phenanthrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	82	88
Anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	76	82
Pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	83	87
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	2	<1	<1	0	77	83
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	84	84
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	84	2	82	82	0	85	84

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	90
HCB	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	82	89
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	79	85
delta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	85	91
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	88
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	86
Dieldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	90
Endrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	74	80
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	88
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	78	88
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	2	88	86	2	86	85

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	94	115
Dimethoate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	77	79
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	85	91
Malathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	103	116
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	84	92
Parathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	82	86
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	74	82
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	2	88	86	2	86	85

QUALITY CONTROL: PCBs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Aroclor 1016	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021	<2	2	<2	<2	0	119	120
Aroclor 1260	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	90	2	88	86	2	86	85

QUALITY CONTROL: Total Phenolics in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	[NT]
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	[NT]
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	1	<0.05	<0.05	0	104	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300303-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	97	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	94	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	80
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	14	13	7	93	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	8	7	13	96	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	990	970	2	100	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	460	450	2	100	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: Metals in Water - Dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date digested	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Date analysed	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	1	10	10	0	100	118

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Date analysed	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	[NT]		97	#
pH	pH Units		Inorg-001	[NT]	1	6.8	6.9	1	99	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	5100	5100	0	101	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	2800	[NT]		112	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	[NT]		98	98
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.8	0.8	0	105	81
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.7	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		94	110
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	[NT]		98	98
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.29	[NT]		86	86
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	<0.2	1	0.4	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	[NT]		94	#

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	5	13/07/2022	13/07/2022		[NT]	[NT]
Date analysed	-			[NT]	5	13/07/2022	13/07/2022		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	5	6.3	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	5	10000	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	5	7000	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.01	0.01	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	5	0.2	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	5	0.2	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.01	0.01	0	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	5	0.036	0.027	29	[NT]	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	[NT]	5	<0.2	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	5	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	8	13/07/2022	13/07/2022		[NT]	[NT]
Date analysed	-			[NT]	8	13/07/2022	13/07/2022		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	8	<0.005	[NT]		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	8	6.4	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	8	17000	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	8	11000	12000	9	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	8	0.2	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	8	0.2	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	8	0.057	[NT]		[NT]	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	[NT]	8	<0.2	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	8	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.9	1	11	86	95

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Date analysed	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	170	170	0	97	#
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	24	24	0	89	95
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	1200	1200	0	93	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	230	230	0	96	#
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	1300	1300	0	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	550	2	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	550	2	110	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	280	[NT]		93	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	1200	[NT]		101	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	24	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300303-3
Date prepared	-			[NT]	2	13/07/2022	13/07/2022		[NT]	13/07/2022
Date analysed	-			[NT]	2	13/07/2022	13/07/2022		[NT]	13/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	240	[NT]		[NT]	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	10	[NT]		[NT]	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	3900	[NT]		[NT]	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	690	[NT]		[NT]	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	2	3400	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	320	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	320	[NT]		[NT]	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	[NT]	2	550	560	2	[NT]	#
Chloride, Cl	mg/L	1	Inorg-081	[NT]	2	8900	8800	1	[NT]	#
Ionic Balance	%		Inorg-040	[NT]	2	-5.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Dissolved Gases in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	[NT]
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	[NT]
Methane	µg/L	5	AT-006	<5	1	8	8	0	100	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	102	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	104	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	110	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	87	[NT]	[NT]	[NT]	[NT]	81	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD$^{13}C_2$ *6:2FTS*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	135	[NT]	[NT]	[NT]	[NT]	120	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG:
PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.
Percent recovery not reported due to metrix interferences.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Dissolved Metals: For the determination of dissolved metals in sample 300303-4, the unpreserved sample was filtered through 0.45um filter at the lab due to the appearance of colloids and/or sediment in the supplied HNO3 bottle (it appears the sample has not been field filtered).
Note: there is a possibility some elements may be underestimated.
Ion Balance - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

ENVIROLAB

Job No: 300303

Date Received: 13/07/22.
Time Received: 1100
Received by: CH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Updated: COC@ 13/07/22

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01 CZ1	Lab:	Envirolab
Project/Site:	SMW WTP Clyde Zone 1	Lab Quote No:	
Project Manager:	Todd O'Brien (tobrien@epicenvironmental.com.au)	Lab Batch No:	
Sampled By:	Tyler Spang (tspang@epicenvironmental.com.au)	Turnaround time:	Standard TAT
Phone:	458941341	Sample Disposal After:	
Page:	1 of 1		
Number of Eskies:			

	SAMPLE ID	Lab ID	DATE	MATRIX	Soil / Solid: 150-250ml Glass Jar	Soil / Solid: 200ml Plastic Jar	Soil / Solid: Plastic bag	Water / Liquid: 2x 40ml Amber Vial	Water / Liquid: 100-500ml Amber Bottle	Water / Liquid: 60ml Metals	Water / Liquid: 60ml Nutrients	Water / Liquid: 250-500ml Plastic (Unpreserved)	Water / Liquid: 60-250ml Plastic (PFAS)	Other	Combo 8	Cr VI	Source Water Analysis	Nutrient suite	TRH C6-C10 + BTEX	dissolved methane	PFAS (short and trace)	VOC	Combo 3 (duplicates)	8 metals (dissolved, filtered by la				HOLD
1	SMW_ENV237	1	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
2	SMW_ENV149	2	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
3	SMW_ENV241	3	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
4	SMW_ENV234	4	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
5	SMW_ENV209	5	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
6	SMW_ENV243	6	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
7	SMW_ENV208	7	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
8	SMW_ENV207	8	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
9	TS	9	11/07/2022	W				1											1									
10	TB	10	11/07/2022	W				1											1									
11	SMW_ENV238		11/07/2022	W											1	1	1	1		1	1	1						
12	TS02_CZ1	Job 300162	11/07/2022	W															1									
13	TB02_CZ1		11/07/2022	W															1									
14																												
15																												
16																												
17																												
18																												
19																												
20																												
				TOTALS				18	16	8		8	8									9						

Relinquished By:
NAME: Tyler Spang (tspang@epicenvironmental.c SIGNATURE DATE 13-Jul-22

Received By: Christine Gossip
NAME SIGNATURE DATE 13/07/22 1100

Custody Seals Intact	Y	N
Samples Received Chilled 8°C	Y	N
Method of Shipment		

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

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12 Ashley St Chatswood NSW 2067
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CERTIFICATE OF ANALYSIS 300303

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Todd O'Brien
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, CZ1**
Number of Samples	10 Water
Date samples received	13/07/2022
Date completed instructions received	13/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	20/07/2022
Date of Issue	26/07/2022
Reissue Details	This report replaces R00 created on 21/07/2022 due to: revised report with additional results (Al for Sample #2).

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Results Approved By
Amanda Chui, Air Toxics Team Leader
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Nick Sarlamis, Assistant Operation Manager
Phalak Inthakesone, Organics Development Manager, Sydney
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	104	97	97	103
Surrogate toluene-d8	%	98	98	97	98	97
Surrogate 4-BFB	%	98	102	98	101	99

VOCs in water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	103	97	96
Surrogate toluene-d8	%	97	97	98
Surrogate 4-BFB	%	99	101	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	104	97	97	103
Surrogate toluene-d8	%	98	98	97	98	97
Surrogate 4-BFB	%	98	102	98	101	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300303-6	300303-7	300303-8	300303-9	300303-10
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207	TS	TB
Date Sampled		12/07/2022	12/07/2022	12/07/2022	11/07/2022	11/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	88%	<1
Toluene	µg/L	<1	<1	<1	92%	<1
Ethylbenzene	µg/L	<1	<1	<1	112%	<1
m+p-xylene	µg/L	<2	<2	<2	109%	<2
o-xylene	µg/L	<1	<1	<1	112%	<1
Naphthalene	µg/L	<1	<1	<1	[NT]	<1
Surrogate Dibromofluoromethane	%	103	97	96	99	97
Surrogate toluene-d8	%	97	97	98	99	97
Surrogate 4-BFB	%	99	101	99	97	98

svTRH (C10-C40) in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	100
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	100
Surrogate o-Terphenyl	%	81	85	92	78	83

svTRH (C10-C40) in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	240	160	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	240	160	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	220	140	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	220	140	<50
Surrogate o-Terphenyl	%	85	85	80

PAHs in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	81	82	90	74	84

PAHs in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	87	79

Organochlorine Pesticides in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	88	90	83	88

Organochlorine Pesticides in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	86	84

OP Pesticides in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	88	90	83	88

OP Pesticides in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	86	84

PCBs in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCMX	%	83	88	90	83	88

PCBs in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Aroclor 1016	µg/L	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2
Surrogate TCMX	%	86	86	84

Total Phenolics in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Total Phenolics in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05

HM in water - dissolved						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	2	5	<1	6	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	0.2	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	8	<1	1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	14	10	35	3	7
Zinc-Dissolved	µg/L	8	12	91	<1	8
Iron-Dissolved	µg/L	990	20,000	6,500	75,000	30
Manganese-Dissolved	µg/L	460	350	1,000	2,900	520
Aluminium-Dissolved	µg/L	[NA]	<10	[NA]	[NA]	[NA]

HM in water - dissolved				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	<1	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	4	10	5
Zinc-Dissolved	µg/L	4	22	9
Iron-Dissolved	µg/L	40	370	470
Manganese-Dissolved	µg/L	240	920	420

Metals in Water - Dissolved						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date digested	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	10	10	12	7.5	20

Metals in Water - Dissolved				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date digested	-	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	16	19	14

Miscellaneous Inorganics						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.050	<0.005	<0.050	<0.005
pH	pH Units	6.8	6.1	5.7	6.4	6.3
Electrical Conductivity	µS/cm	5,100	26,000	43,000	48,000	10,000
Total Dissolved Solids (grav)	mg/L	2,800	16,000	34,000	40,000	7,000
Nitrate as N in water	mg/L	0.02	<0.005	<0.005	<0.01	0.01
Total Nitrogen in water	mg/L	0.8	0.7	1.0	1.6	0.2
TKN in water	mg/L	0.7	0.7	1.0	1.6	0.2
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	<0.010	<0.005
NOx as N in water	mg/L	0.02	<0.005	<0.005	<0.01	0.01
Ammonia as N in water	mg/L	0.29	0.63	0.80	1.4	0.036
Organic Nitrogen as N	mg/L	0.4	<0.2	0.2	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.05	<0.005	<0.05	<0.005

Miscellaneous Inorganics				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005
pH	pH Units	6.4	5.9	6.4
Electrical Conductivity	µS/cm	7,600	19,000	17,000
Total Dissolved Solids (grav)	mg/L	4,100	13,000	11,000
Nitrate as N in water	mg/L	0.14	<0.005	<0.005
Total Nitrogen in water	mg/L	0.3	0.2	0.2
TKN in water	mg/L	0.1	0.2	0.2
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005
NOx as N in water	mg/L	0.1	<0.005	<0.005
Ammonia as N in water	mg/L	0.020	0.044	0.057
Organic Nitrogen as N	mg/L	<0.2	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005

Metals in Waters - Total						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Phosphorus - Total	mg/L	0.9	<0.05	<0.05	<0.05	<0.05

Metals in Waters - Total				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05

Ion Balance						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	170	240	510	800	65
Potassium - Dissolved	mg/L	24	10	82	87	4
Sodium - Dissolved	mg/L	1,200	3,900	7,400	8,100	1,400
Magnesium - Dissolved	mg/L	230	690	510	1,500	190
Hardness	mgCaCO 3 /L	1,300	3,400	3,300	8,200	930
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	540	320	84	590	220
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	540	320	84	590	220
Sulphate, SO4	mg/L	280	550	1,700	1,300	320
Chloride, Cl	mg/L	1,200	8,900	16,000	18,000	3,100
Ionic Balance	%	24	-5.0	-11	-3.0	-9.0

Ion Balance				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	29	100	170
Potassium - Dissolved	mg/L	2	6.4	7.2
Sodium - Dissolved	mg/L	1,100	2,900	2,500
Magnesium - Dissolved	mg/L	86	400	430
Hardness	mgCaCO 3 /L	420	1,900	2,200
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	210	130	310
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	210	130	310
Sulphate, SO4	mg/L	210	650	450
Chloride, Cl	mg/L	2,200	6,200	5,600
Ionic Balance	%	-11	-8.0	-6.0

Dissolved Gases in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Methane	µg/L	8	<5	<5	8	<5

Dissolved Gases in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Methane	µg/L	<5	12	7

PFAS in Water TRACE Short						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.046	<0.0002	0.0025	<0.0002	0.69
Perfluorooctanesulfonic acid PFOS	µg/L	0.040	<0.0002	0.0002	0.0007	0.60
Perfluorooctanoic acid PFOA	µg/L	0.15	<0.0002	0.0004	<0.0002	0.089
6:2 FTS	µg/L	0.0004	<0.0004	0.002	<0.0004	0.075
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	105	96	99	95	93
Surrogate $^{13}C_2$ *PFOA*	%	103	106	104	97	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	66	82	84	65	146
Extracted ISTD $^{13}C_4$ *PFOS*	%	74	90	96	83	141
Extracted ISTD $^{13}C_4$ *PFOA*	%	139	77	78	33	55
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	108	93	100	92	109
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	122	103	106	118	124
Total Positive PFHxS & PFOS	µg/L	0.086	<0.0002	0.0027	0.0007	1.3
Total Positive PFOS & PFOA	µg/L	0.19	<0.0002	0.0006	0.0007	0.69
Total Positive PFAS	µg/L	0.23	<0.0002	0.0047	0.0007	1.5

PFAS in Water TRACE Short				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.42	0.095	1.3
Perfluorooctanesulfonic acid PFOS	µg/L	0.99	0.021	0.42
Perfluorooctanoic acid PFOA	µg/L	0.085	0.014	0.13
6:2 FTS	µg/L	0.19	0.001	0.061
8:2 FTS	µg/L	0.026	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	90	89	97
Surrogate $^{13}C_2$ *PFOA*	%	106	103	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	144	73	145
Extracted ISTD $^{13}C_4$ *PFOS*	%	135	91	134
Extracted ISTD $^{13}C_4$ *PFOA*	%	49	48	126
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	120	82	84
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	125	95	104
Total Positive PFHxS & PFOS	µg/L	1.4	0.12	1.7
Total Positive PFOS & PFOA	µg/L	1.1	0.035	0.55
Total Positive PFAS	µg/L	1.7	0.13	1.9

Method ID	Methodology Summary
AT-006	Dissolved gases determined by GC-FID based on draft method USEPA SOP RSK175
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			14/07/2022	[NT]	[NT]	[NT]	[NT]	14/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	82	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	81	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			14/07/2022	[NT]	[NT]	[NT]	[NT]	14/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	89	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	[NT]
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	2	<50	<50	0	94	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	2	<100	<100	0	96	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	2	<50	<50	0	94	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	2	<100	<100	0	96	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	90	2	85	87	2	83	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	2	<1	<1	0	80	82
Acenaphthylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	79	81
Fluorene	µg/L	1	Org-022/025	<1	2	<1	<1	0	78	86
Phenanthrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	82	88
Anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	76	82
Pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	83	87
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	2	<1	<1	0	77	83
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	84	84
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	84	2	82	82	0	85	84

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	90
HCB	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	82	89
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	79	85
delta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	85	91
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	88
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	86
Dieldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	90
Endrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	74	80
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	88
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	78	88
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	2	88	86	2	86	85

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	94	115
Dimethoate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	77	79
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	85	91
Malathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	103	116
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	84	92
Parathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	82	86
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	74	82
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	2	88	86	2	86	85

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Aroclor 1016	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021	<2	2	<2	<2	0	119	120
Aroclor 1260	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	90	2	88	86	2	86	85

QUALITY CONTROL: Total Phenolics in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	[NT]
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	[NT]
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	1	<0.05	<0.05	0	104	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300303-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	97	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	94	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	80
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	14	13	7	93	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	8	7	13	96	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	990	970	2	100	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	460	450	2	100	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: Metals in Water - Dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date digested	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Date analysed	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	1	10	10	0	100	118

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Date analysed	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	[NT]		97	#
pH	pH Units		Inorg-001	[NT]	1	6.8	6.9	1	99	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	5100	5100	0	101	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	2800	[NT]		112	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	[NT]		98	98
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.8	0.8	0	105	81
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.7	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		94	110
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	[NT]		98	98
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.29	[NT]		86	86
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	<0.2	1	0.4	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	[NT]		94	#

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	5	13/07/2022	13/07/2022		[NT]	[NT]
Date analysed	-			[NT]	5	13/07/2022	13/07/2022		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	5	6.3	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	5	10000	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	5	7000	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.01	0.01	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	5	0.2	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	5	0.2	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.01	0.01	0	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	5	0.036	0.027	29	[NT]	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	[NT]	5	<0.2	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	5	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	8	13/07/2022	13/07/2022		[NT]	[NT]
Date analysed	-			[NT]	8	13/07/2022	13/07/2022		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	8	<0.005	[NT]		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	8	6.4	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	8	17000	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	8	11000	12000	9	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	8	0.2	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	8	0.2	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	8	0.057	[NT]		[NT]	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	[NT]	8	<0.2	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	8	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.9	1	11	86	95

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Date analysed	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	170	170	0	97	#
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	24	24	0	89	95
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	1200	1200	0	93	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	230	230	0	96	#
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	1300	1300	0	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	550	2	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	550	2	110	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	280	[NT]		93	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	1200	[NT]		101	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	24	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300303-3
Date prepared	-			[NT]	2	13/07/2022	13/07/2022		[NT]	13/07/2022
Date analysed	-			[NT]	2	13/07/2022	13/07/2022		[NT]	13/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	240	[NT]		[NT]	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	10	[NT]		[NT]	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	3900	[NT]		[NT]	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	690	[NT]		[NT]	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	2	3400	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	320	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	320	[NT]		[NT]	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	[NT]	2	550	560	2	[NT]	#
Chloride, Cl	mg/L	1	Inorg-081	[NT]	2	8900	8800	1	[NT]	#
Ionic Balance	%		Inorg-040	[NT]	2	-5.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Dissolved Gases in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	[NT]
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	[NT]
Methane	µg/L	5	AT-006	<5	1	8	8	0	100	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	102	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	104	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	110	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	87	[NT]	[NT]	[NT]	[NT]	81	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	135	[NT]	[NT]	[NT]	[NT]	120	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG:
PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.
Percent recovery not reported due to metrix interferences.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Dissolved Metals: For the determination of dissolved metals in sample 300303-4, the unpreserved sample was filtered through 0.45um filter at the lab due to the appearance of colloids and/or sediment in the supplied HNO3 bottle (it appears the sample has not been field filtered).
Note: there is a possibility some elements may be underestimated.
Ion Balance - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 300303

Date Received: 13/07/22.
Time Received: 1100
Received by: CH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Updated: COC@ 13/07/22

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01 CZ1	Lab:	Envirolab
Project/Site:	SMW WTP Clyde Zone 1	Lab Quote No:	
Project Manager:	Todd O'Brien (tobrien@epicenvironmental.com.au)	Lab Batch No:	
Sampled By:	Tyler Spang (tspang@epicenvironmental.com.au)	Turnaround time:	Standard TAT
Phone:	458941341	Sample Disposal After:	
Page:	1 of 1		
Number of Eskies:			

CONTAINER TYPE & PRESERVATIVE: Soil / Solid (150-250ml Glass Jar; 200ml Plastic Jar; Plastic bag) — Water / Liquid (2x40ml Amber Vial; 100-500ml Amber Bottle; 60ml Metals; 60ml Nutrients; 250-500ml Plastic (Unpreserved); 60-250ml Plastic (PFAS)) — Other

ANALYSIS REQUIRED

	SAMPLE ID	Lab ID	DATE	MATRIX	150-250ml Glass Jar	200ml Plastic Jar	Plastic bag	2x40ml Amber Vial	100-500ml Amber Bottle	60ml Metals	60ml Nutrients	250-500ml Plastic (Unpreserved)	60-250ml Plastic (PFAS)	Other	Combo 8	Cr VI	Source Water Analysis	Nutrient suite	TRH C6-C10 + BTEX	dissolved methane	PFAS (short and trace)	VOC	Combo 3 (duplicates)	8 metals (dissolved, filtered by la				HOLD
1	SMW_ENV237	1	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
2	SMW_ENV149	2	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
3	SMW_ENV241	3	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
4	SMW_ENV234	4	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
5	SMW_ENV209	5	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
6	SMW_ENV243	6	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
7	SMW_ENV208	7	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
8	SMW_ENV207	8	12/07/2022	W				2	2	1	1	1	1		1	1	1	1		1	1	1						
9	TS	9	11/07/2022	W				1											1									
10	TB	10	11/07/2022	W				1											1									
11	SMW_ENV238		11/07/2022	W											1	1	1	1		1	1	1						
12	TS02_CZ1	Job 300162	11/07/2022	W															1									
13	TB02_CZ1		11/07/2022	W															1									
14																												
15																												
16																												
17																												
18																												
19																												
20																												
				TOTALS				18	16	8		8	8									9						

Relinquished By:
NAME: Tyler Spang (tspang@epicenvironmental.co SIGNATURE DATE 13-Jul-22

Received By: Christine Gessup
NAME SIGNATURE 13/07/22 DATE 1100

Custody Seals Intact Y N
Samples Received Chilled 8°C Y N
Method of Shipment

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

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12 Ashley St Chatswood NSW 2067
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CERTIFICATE OF ANALYSIS 300303

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Todd O'Brien
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, CZ1**
Number of Samples	10 Water
Date samples received	13/07/2022
Date completed instructions received	13/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	20/07/2022
Date of Issue	26/07/2022
Reissue Details	This report replaces R00 created on 21/07/2022 due to: revised report with additional results (Al for Sample #2).

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Results Approved By
Amanda Chui, Air Toxics Team Leader
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Nick Sarlamis, Assistant Operation Manager
Phalak Inthakesone, Organics Development Manager, Sydney
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	104	97	97	103
Surrogate toluene-d8	%	98	98	97	98	97
Surrogate 4-BFB	%	98	102	98	101	99

VOCs in water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	103	97	96
Surrogate toluene-d8	%	97	97	98
Surrogate 4-BFB	%	99	101	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	104	97	97	103
Surrogate toluene-d8	%	98	98	97	98	97
Surrogate 4-BFB	%	98	102	98	101	99

vTRH(C6-C10)/BTEXN in Water						
Our Reference		300303-6	300303-7	300303-8	300303-9	300303-10
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207	TS	TB
Date Sampled		12/07/2022	12/07/2022	12/07/2022	11/07/2022	11/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	88%	<1
Toluene	µg/L	<1	<1	<1	92%	<1
Ethylbenzene	µg/L	<1	<1	<1	112%	<1
m+p-xylene	µg/L	<2	<2	<2	109%	<2
o-xylene	µg/L	<1	<1	<1	112%	<1
Naphthalene	µg/L	<1	<1	<1	[NT]	<1
Surrogate Dibromofluoromethane	%	103	97	96	99	97
Surrogate toluene-d8	%	97	97	98	99	97
Surrogate 4-BFB	%	99	101	99	97	98

svTRH (C10-C40) in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	100
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	100
Surrogate o-Terphenyl	%	81	85	92	78	83

svTRH (C10-C40) in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	240	160	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	240	160	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	220	140	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	220	140	<50
Surrogate o-Terphenyl	%	85	85	80

PAHs in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	81	82	90	74	84

PAHs in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	87	79

Organochlorine Pesticides in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	88	90	83	88

Organochlorine Pesticides in Water				
Our Reference	UNITS	300303-6	300303-7	300303-8
Your Reference		SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	86	84

OP Pesticides in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	88	90	83	88

OP Pesticides in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	86	86	84

PCBs in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCMX	%	83	88	90	83	88

PCBs in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Aroclor 1016	µg/L	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2
Surrogate TCMX	%	86	86	84

Total Phenolics in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Total Phenolics in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date extracted	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05

HM in water - dissolved						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	2	5	<1	6	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	0.2	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	8	<1	1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	14	10	35	3	7
Zinc-Dissolved	µg/L	8	12	91	<1	8
Iron-Dissolved	µg/L	990	20,000	6,500	75,000	30
Manganese-Dissolved	µg/L	460	350	1,000	2,900	520
Aluminium-Dissolved	µg/L	[NA]	<10	[NA]	[NA]	[NA]

HM in water - dissolved				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	14/07/2022	14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	<1	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	4	10	5
Zinc-Dissolved	µg/L	4	22	9
Iron-Dissolved	µg/L	40	370	470
Manganese-Dissolved	µg/L	240	920	420

Metals in Water - Dissolved						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date digested	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022	18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	10	10	12	7.5	20

Metals in Water - Dissolved				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date digested	-	18/07/2022	18/07/2022	18/07/2022
Date analysed	-	18/07/2022	18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	16	19	14

Miscellaneous Inorganics						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.050	<0.005	<0.050	<0.005
pH	pH Units	6.8	6.1	5.7	6.4	6.3
Electrical Conductivity	µS/cm	5,100	26,000	43,000	48,000	10,000
Total Dissolved Solids (grav)	mg/L	2,800	16,000	34,000	40,000	7,000
Nitrate as N in water	mg/L	0.02	<0.005	<0.005	<0.01	0.01
Total Nitrogen in water	mg/L	0.8	0.7	1.0	1.6	0.2
TKN in water	mg/L	0.7	0.7	1.0	1.6	0.2
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	<0.010	<0.005
NOx as N in water	mg/L	0.02	<0.005	<0.005	<0.01	0.01
Ammonia as N in water	mg/L	0.29	0.63	0.80	1.4	0.036
Organic Nitrogen as N	mg/L	0.4	<0.2	0.2	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.05	<0.005	<0.05	<0.005

Miscellaneous Inorganics				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	<0.005	<0.005	<0.005
pH	pH Units	6.4	5.9	6.4
Electrical Conductivity	µS/cm	7,600	19,000	17,000
Total Dissolved Solids (grav)	mg/L	4,100	13,000	11,000
Nitrate as N in water	mg/L	0.14	<0.005	<0.005
Total Nitrogen in water	mg/L	0.3	0.2	0.2
TKN in water	mg/L	0.1	0.2	0.2
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005
NOx as N in water	mg/L	0.1	<0.005	<0.005
Ammonia as N in water	mg/L	0.020	0.044	0.057
Organic Nitrogen as N	mg/L	<0.2	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005

Metals in Waters - Total						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Phosphorus - Total	mg/L	0.9	<0.05	<0.05	<0.05	<0.05

Metals in Waters - Total				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	14/07/2022	14/07/2022	14/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05

Ion Balance						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022	13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	170	240	510	800	65
Potassium - Dissolved	mg/L	24	10	82	87	4
Sodium - Dissolved	mg/L	1,200	3,900	7,400	8,100	1,400
Magnesium - Dissolved	mg/L	230	690	510	1,500	190
Hardness	mgCaCO 3 /L	1,300	3,400	3,300	8,200	930
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	540	320	84	590	220
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	540	320	84	590	220
Sulphate, SO4	mg/L	280	550	1,700	1,300	320
Chloride, Cl	mg/L	1,200	8,900	16,000	18,000	3,100
Ionic Balance	%	24	-5.0	-11	-3.0	-9.0

Ion Balance				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	13/07/2022	13/07/2022	13/07/2022
Date analysed	-	13/07/2022	13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	29	100	170
Potassium - Dissolved	mg/L	2	6.4	7.2
Sodium - Dissolved	mg/L	1,100	2,900	2,500
Magnesium - Dissolved	mg/L	86	400	430
Hardness	mgCaCO 3 /L	420	1,900	2,200
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	210	130	310
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	210	130	310
Sulphate, SO4	mg/L	210	650	450
Chloride, Cl	mg/L	2,200	6,200	5,600
Ionic Balance	%	-11	-8.0	-6.0

Dissolved Gases in Water						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Methane	µg/L	8	<5	<5	8	<5

Dissolved Gases in Water				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Methane	µg/L	<5	12	7

PFAS in Water TRACE Short						
Our Reference		300303-1	300303-2	300303-3	300303-4	300303-5
Your Reference	UNITS	SMW_ENV237	SMW_ENV149	SMW_ENV241	SMW_ENV234	SMW_ENV209
Date Sampled		12/07/2022	12/07/2022	12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.046	<0.0002	0.0025	<0.0002	0.69
Perfluorooctanesulfonic acid PFOS	µg/L	0.040	<0.0002	0.0002	0.0007	0.60
Perfluorooctanoic acid PFOA	µg/L	0.15	<0.0002	0.0004	<0.0002	0.089
6:2 FTS	µg/L	0.0004	<0.0004	0.002	<0.0004	0.075
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	105	96	99	95	93
Surrogate $^{13}C_2$ *PFOA*	%	103	106	104	97	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	66	82	84	65	146
Extracted ISTD $^{13}C_4$ *PFOS*	%	74	90	96	83	141
Extracted ISTD $^{13}C_4$ *PFOA*	%	139	77	78	33	55
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	108	93	100	92	109
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	122	103	106	118	124
Total Positive PFHxS & PFOS	µg/L	0.086	<0.0002	0.0027	0.0007	1.3
Total Positive PFOS & PFOA	µg/L	0.19	<0.0002	0.0006	0.0007	0.69
Total Positive PFAS	µg/L	0.23	<0.0002	0.0047	0.0007	1.5

PFAS in Water TRACE Short				
Our Reference		300303-6	300303-7	300303-8
Your Reference	UNITS	SMW_ENV243	SMW_ENV208	SMW_ENV207
Date Sampled		12/07/2022	12/07/2022	12/07/2022
Type of sample		Water	Water	Water
Date prepared	-	15/07/2022	15/07/2022	15/07/2022
Date analysed	-	15/07/2022	15/07/2022	15/07/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.42	0.095	1.3
Perfluorooctanesulfonic acid PFOS	µg/L	0.99	0.021	0.42
Perfluorooctanoic acid PFOA	µg/L	0.085	0.014	0.13
6:2 FTS	µg/L	0.19	0.001	0.061
8:2 FTS	µg/L	0.026	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	90	89	97
Surrogate $^{13}C_2$ *PFOA*	%	106	103	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	144	73	145
Extracted ISTD $^{13}C_4$ *PFOS*	%	135	91	134
Extracted ISTD $^{13}C_4$ *PFOA*	%	49	48	126
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	120	82	84
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	125	95	104
Total Positive PFHxS & PFOS	µg/L	1.4	0.12	1.7
Total Positive PFOS & PFOA	µg/L	1.1	0.035	0.55
Total Positive PFAS	µg/L	1.7	0.13	1.9

Method ID	Methodology Summary
AT-006	Dissolved gases determined by GC-FID based on draft method USEPA SOP RSK175
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			14/07/2022	[NT]	[NT]	[NT]	[NT]	14/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	82	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	81	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			14/07/2022	[NT]	[NT]	[NT]	[NT]	14/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	89	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	[NT]
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	2	<50	<50	0	94	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	2	<100	<100	0	96	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	2	<50	<50	0	94	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	2	<100	<100	0	96	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	2	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	90	2	85	87	2	83	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Naphthalene	µg/L	1	Org-022/025	<1	2	<1	<1	0	80	82
Acenaphthylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	79	81
Fluorene	µg/L	1	Org-022/025	<1	2	<1	<1	0	78	86
Phenanthrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	82	88
Anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	2	<1	<1	0	76	82
Pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	83	87
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	2	<1	<1	0	77	83
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	2	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	84	84
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	2	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	84	2	82	82	0	85	84

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	90
HCB	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	82	89
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	79	85
delta-BHC	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	85	91
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	88
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	86
Dieldrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	90
Endrin	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	74	80
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	80	88
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	78	88
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	2	88	86	2	86	85

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	94	115
Dimethoate	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	77	79
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	85	91
Malathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	103	116
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	84	92
Parathion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	82	86
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	74	82
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	2	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	2	88	86	2	86	85

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-3
Date extracted	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Date analysed	-			15/07/2022	2	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Aroclor 1016	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021	<2	2	<2	<2	0	119	120
Aroclor 1260	µg/L	2	Org-021	<2	2	<2	<2	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	90	2	88	86	2	86	85

QUALITY CONTROL: Total Phenolics in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	[NT]
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	[NT]
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	1	<0.05	<0.05	0	104	[NT]

QUALITY CONTROL: HM in water - dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	300303-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	97	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	98	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	94	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	98	80
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	14	13	7	93	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	8	7	13	96	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	990	970	2	100	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	460	450	2	100	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: Metals in Water - Dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date digested	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Date analysed	-			18/07/2022	1	18/07/2022	18/07/2022		18/07/2022	18/07/2022
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	1	10	10	0	100	118

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Date analysed	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	<0.005	1	<0.005	[NT]		97	#
pH	pH Units		Inorg-001	[NT]	1	6.8	6.9	1	99	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	5100	5100	0	101	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	2800	[NT]		112	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	[NT]		98	98
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.8	0.8	0	105	81
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.7	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		94	110
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.02	[NT]		98	98
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.29	[NT]		86	86
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	<0.2	1	0.4	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	[NT]		94	#

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	5	13/07/2022	13/07/2022		[NT]	[NT]
Date analysed	-			[NT]	5	13/07/2022	13/07/2022		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	5	6.3	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	5	10000	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	5	7000	[NT]		[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.01	0.01	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	5	0.2	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	5	0.2	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	5	<0.005	<0.005	0	[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	5	0.01	0.01	0	[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	5	0.036	0.027	29	[NT]	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	[NT]	5	<0.2	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	5	<0.005	<0.005	0	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	8	13/07/2022	13/07/2022		[NT]	[NT]
Date analysed	-			[NT]	8	13/07/2022	13/07/2022		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/L	0.005	Inorg-024	[NT]	8	<0.005	[NT]		[NT]	[NT]
pH	pH Units		Inorg-001	[NT]	8	6.4	[NT]		[NT]	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	[NT]	8	17000	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	[NT]	8	11000	12000	9	[NT]	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	[NT]	8	0.2	[NT]		[NT]	[NT]
TKN in water	mg/L	0.1	Inorg-062	[NT]	8	0.2	[NT]		[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
NOx as N in water	mg/L	0.005	Inorg-055	[NT]	8	<0.005	[NT]		[NT]	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	[NT]	8	0.057	[NT]		[NT]	[NT]
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	[NT]	8	<0.2	[NT]		[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	[NT]	8	<0.005	[NT]		[NT]	[NT]

QUALITY CONTROL: Metals in Waters - Total						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			14/07/2022	1	14/07/2022	14/07/2022		14/07/2022	14/07/2022
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	15/07/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	0.9	1	11	86	95

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	300303-2
Date prepared	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Date analysed	-			13/07/2022	1	13/07/2022	13/07/2022		13/07/2022	13/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	170	170	0	97	#
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	24	24	0	89	95
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	1200	1200	0	93	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	230	230	0	96	#
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	1300	1300	0	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	550	2	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	550	2	110	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	280	[NT]		93	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	1200	[NT]		101	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	24	[NT]		[NT]	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	300303-3
Date prepared	-			[NT]	2	13/07/2022	13/07/2022		[NT]	13/07/2022
Date analysed	-			[NT]	2	13/07/2022	13/07/2022		[NT]	13/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	240	[NT]		[NT]	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	10	[NT]		[NT]	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	3900	[NT]		[NT]	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	[NT]	2	690	[NT]		[NT]	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	2	3400	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	320	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	[NT]	2	320	[NT]		[NT]	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	[NT]	2	550	560	2	[NT]	#
Chloride, Cl	mg/L	1	Inorg-081	[NT]	2	8900	8800	1	[NT]	#
Ionic Balance	%		Inorg-040	[NT]	2	-5.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Dissolved Gases in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	[NT]
Date analysed	-			15/07/2022	1	15/07/2022	15/07/2022		15/07/2022	[NT]
Methane	µg/L	5	AT-006	<5	1	8	8	0	100	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Date analysed	-			15/07/2022	[NT]	[NT]	[NT]	[NT]	15/07/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	102	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	104	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	110	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	87	[NT]	[NT]	[NT]	[NT]	81	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	135	[NT]	[NT]	[NT]	[NT]	120	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG:
PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.
Percent recovery not reported due to metrix interferences.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Dissolved Metals: For the determination of dissolved metals in sample 300303-4, the unpreserved sample was filtered through 0.45um filter at the lab due to the appearance of colloids and/or sediment in the supplied HNO3 bottle (it appears the sample has not been field filtered).
Note: there is a possibility some elements may be underestimated.
Ion Balance - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 300303

Date Received: 13/07/22.
Time Received: 1100
Received by: CH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Updated:
COC@ 13/07/22

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01 CZ1	Lab:	Envirolab
Project/Site:	SMW WTP Clyde Zone 1	Lab Quote No:	
Project Manager:	Todd O'Brien (tobrien@epicenvironmental.com.au)	Lab Batch No:	
Sampled By:	Tyler Spang (tspang@epicenvironmental.com.au)	Turnaround time:	Standard TAT
Phone:	458941341	Sample Disposal After:	
Page:	1 of 1		
Number of Eskies:			

CONTAINER TYPE & PRESERVATIVE

	SAMPLE ID	Lab ID	DATE	MATRIX	Soil / Solid 150-250ml Glass Jar	Soil / Solid 200ml Plastic Jar	Soil / Solid Plastic bag	Water / Liquid 2x 40ml Amber Vial	Water / Liquid 100-500ml Amber Bottle	Water / Liquid 60ml Metals	Water / Liquid 60ml Nutrients	Water / Liquid 250-500ml Plastic (Unpreserved)	Water / Liquid 60-250ml Plastic (PFAS)	Other
1	SMW_ENV237	1	12/07/2022	W				2	2	1	1	1	1	
2	SMW_ENV149	2	12/07/2022	W				2	2	1	1	1	1	
3	SMW_ENV241	3	12/07/2022	W				2	2	1	1	1	1	
4	SMW_ENV234	4	12/07/2022	W				2	2	1	1	1	1	
5	SMW_ENV209	5	12/07/2022	W				2	2	1	1	1	1	
6	SMW_ENV243	6	12/07/2022	W				2	2	1	1	1	1	
7	SMW_ENV208	7	12/07/2022	W				2	2	1	1	1	1	
8	SMW_ENV207	8	12/07/2022	W				2	2	1	1	1	1	
9	TS	9	11/07/2022	W				1						
10	TB	10	11/07/2022	W				1						
11	SMW_ENV238		11/07/2022	W										
12	TS02_CZ1	Job 300162	11/07/2022	W										
13	TB02_CZ1		11/07/2022	W										
14														
15														
16														
17														
18														
19														
20														
				TOTALS				18	16	8		8	8	

ANALYSIS REQUIRED

	SAMPLE ID	Combo 8	Cr VI	Source Water Analysis	Nutrient suite	TRH C6-C10 + BTEX	dissolved methane	PFAS (short and trace)	VOC	Combo 3 (duplicates)	8 metals (dissolved, filtered by la				HOLD
1	SMW_ENV237	1	1	1	1		1	1	1						
2	SMW_ENV149	1	1	1	1		1	1	1						
3	SMW_ENV241	1	1	1	1		1	1	1						
4	SMW_ENV234	1	1	1	1		1	1	1						
5	SMW_ENV209	1	1	1	1		1	1	1						
6	SMW_ENV243	1	1	1	1		1	1	1						
7	SMW_ENV208	1	1	1	1		1	1	1						
8	SMW_ENV207	1	1	1	1		1	1	1						
9	TS					1									
10	TB					1									
11	SMW_ENV238	1	1	1	1		1	1	1						
12	TS02_CZ1					1									
13	TB02_CZ1					1									
14															
15															
16															
17															
18															
19															
20															
	TOTALS								9						

Relinquished By:
NAME Tyler Spang (tspang@epicenvironmental.c SIGNATURE DATE 13-Jul-22

Received By: christine Gessup
NAME SIGNATURE 13/07/22 DATE 1100

Custody Seals Intact	Y	N
Samples Received Chilled 8°C	Y	N
Method of Shipment		

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 301795

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Todd O'Brien
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.01, SMW WTP CZ1**
Number of Samples	10 Water
Date samples received	29/07/2022
Date completed instructions received	29/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	05/08/2022
Date of Issue	05/08/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Amanda Chui, Air Toxics Team Leader
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Josh Williams, Organics and LC Supervisor
Kyle Gavrily, Senior Chemist
Phalak Inthakesone, Organics Development Manager, Sydney
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	93	94	94	94	98
Surrogate toluene-d8	%	97	97	97	96	96
Surrogate 4-BFB	%	102	103	106	100	103

VOCs in water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022
Dichlorodifluoromethane	µg/L	<10	<10
Chloromethane	µg/L	<10	<10
Vinyl Chloride	µg/L	<10	<10
Bromomethane	µg/L	<10	<10
Chloroethane	µg/L	<10	<10
Trichlorofluoromethane	µg/L	<10	<10
1,1-Dichloroethene	µg/L	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1
1,1-dichloroethane	µg/L	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1
Bromochloromethane	µg/L	<1	<1
Chloroform	µg/L	<1	<1
2,2-dichloropropane	µg/L	<1	<1
1,2-dichloroethane	µg/L	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1
1,1-dichloropropene	µg/L	<1	<1
Cyclohexane	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Benzene	µg/L	<1	<1
Dibromomethane	µg/L	<1	<1
1,2-dichloropropane	µg/L	<1	<1
Trichloroethene	µg/L	<1	<1
Bromodichloromethane	µg/L	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1
Toluene	µg/L	<1	<1
1,3-dichloropropane	µg/L	<1	<1
Dibromochloromethane	µg/L	<1	<1
1,2-dibromoethane	µg/L	<1	<1
Tetrachloroethene	µg/L	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1
Chlorobenzene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1

VOCs in water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Bromoform	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
Styrene	µg/L	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1
o-xylene	µg/L	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1
Isopropylbenzene	µg/L	<1	<1
Bromobenzene	µg/L	<1	<1
n-propyl benzene	µg/L	<1	<1
2-chlorotoluene	µg/L	<1	<1
4-chlorotoluene	µg/L	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1
Tert-butyl benzene	µg/L	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1
Sec-butyl benzene	µg/L	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1
4-isopropyl toluene	µg/L	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1
n-butyl benzene	µg/L	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1
Hexachlorobutadiene	µg/L	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	95	98
Surrogate toluene-d8	%	98	97
Surrogate 4-BFB	%	106	105

vTRH(C6-C10)/BTEXN in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	93	94	94	94	98
Surrogate toluene-d8	%	97	97	97	96	96
Surrogate 4-BFB	%	102	103	106	100	103

vTRH(C6-C10)/BTEXN in Water					
Our Reference		301795-6	301795-7	301795-8	301795-9
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02	TS	TB
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022
TRH C_6 - C_9	µg/L	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	116%	<1
Toluene	µg/L	<1	<1	110%	<1
Ethylbenzene	µg/L	<1	<1	128%	<1
m+p-xylene	µg/L	<2	<2	124%	<2
o-xylene	µg/L	<1	<1	122%	<1
Naphthalene	µg/L	<1	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	95	98	98	92
Surrogate toluene-d8	%	98	97	98	97
Surrogate 4-BFB	%	106	105	101	102

svTRH (C10-C40) in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	210	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	210	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	240	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	240	<50	<50	<50
Surrogate o-Terphenyl	%	72	82	74	75	71

svTRH (C10-C40) in Water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022
TRH C_{10} - C_{14}	µg/L	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50
Surrogate o-Terphenyl	%	77	77

PAHs in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	100	90	93	73

PAHs in Water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022
Naphthalene	µg/L	<1	<1
Acenaphthylene	µg/L	<1	<1
Acenaphthene	µg/L	<1	<1
Fluorene	µg/L	<1	<1
Phenanthrene	µg/L	<1	<1
Anthracene	µg/L	<1	<1
Fluoranthene	µg/L	<1	<1
Pyrene	µg/L	<1	<1
Benzo(a)anthracene	µg/L	<1	<1
Chrysene	µg/L	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2
Benzo(a)pyrene	µg/L	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102	93

Organochlorine Pesticides in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	87	92	89	89	70

Organochlorine Pesticides in Water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022
alpha-BHC	µg/L	<0.2	<0.2
HCB	µg/L	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2
Surrogate TCMX	%	91	88

OP Pesticides in Water						
Our Reference	UNITS	301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference		CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	87	92	89	89	70

OP Pesticides in Water			
Our Reference	UNITS	301795-6	301795-7
Your Reference		CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022
Dichlorvos	µg/L	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2
Surrogate TCMX	%	91	88

PCBs in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Aroclor 1016	µg/L	<2	<2	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2	<2	<2
Surrogate TCMX	%	87	92	89	89	70

PCBs in Water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	03/08/2022	03/08/2022
Aroclor 1016	µg/L	<2	<2
Aroclor 1221	µg/L	<2	<2
Aroclor 1232	µg/L	<2	<2
Aroclor 1242	µg/L	<2	<2
Aroclor 1248	µg/L	<2	<2
Aroclor 1254	µg/L	<2	<2
Aroclor 1260	µg/L	<2	<2
Surrogate TCMX	%	91	88

Total Phenolics in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Total Phenolics in Water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date extracted	-	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05

HM in water - dissolved						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Arsenic-Dissolved	µg/L	<1	2	1	<1	<1
Cadmium-Dissolved	µg/L	0.5	0.7	0.4	1.8	0.3
Chromium-Dissolved	µg/L	2	1	2	1	1
Copper-Dissolved	µg/L	4	3	3	3	2
Lead-Dissolved	µg/L	10	<1	<1	1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	9	13	15	7	11
Zinc-Dissolved	µg/L	4,200	73	39	23	25
Iron-Dissolved	µg/L	500	73,000	80	100	30
Manganese-Dissolved	µg/L	100	620	460	310	480

HM in water - dissolved				
Our Reference		301795-6	301795-7	301795-10
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02	RS_270732
Date Sampled		28/07/2022	28/07/2022	27/07/2022
Type of sample		Water	Water	Water
Date prepared	-	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022
Arsenic-Dissolved	µg/L	1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	0.2	<0.1
Chromium-Dissolved	µg/L	2	5	<1
Copper-Dissolved	µg/L	<1	260	<1
Lead-Dissolved	µg/L	<1	2	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	8	200	<1
Zinc-Dissolved	µg/L	42	790	<1
Iron-Dissolved	µg/L	25,000	250	[NA]
Manganese-Dissolved	µg/L	820	190	[NA]
Aluminium-Dissolved	µg/L	[NA]	60	[NA]

Metals in Water - Dissolved						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date digested	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Silicon*- Dissolved	mg/L	8.3	11	9.8	14	12

Metals in Water - Dissolved			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date digested	-	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022
Silicon*- Dissolved	mg/L	9.0	3.3

Miscellaneous Inorganics						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
Date analysed	-	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
pH	pH Units	7.1	6.5	6.5	6.4	6.5
Electrical Conductivity	µS/cm	2,100	6,800	35,000	26,000	31,000
Total Dissolved Solids (grav)	mg/L	1,700	5,300	30,000	20,000	27,000
Nitrate as N in water	mg/L	0.16	0.008	0.007	0.02	0.02
Total Nitrogen in water	mg/L	0.8	8.0	1.5	0.3	0.2
TKN in water	mg/L	0.6	8.0	1.5	0.3	0.2
Nitrite as N in water	mg/L	0.007	<0.005	<0.005	<0.005	<0.005
NOx as N in water	mg/L	0.2	0.01	0.01	0.03	0.02
Ammonia as N in water	mg/L	0.38	4.0	1.2	0.16	0.088
Organic Nitrogen as N	mg/L	0.2	4.0	0.3	<0.2	<0.2
Phosphate as P in water	mg/L	<0.005	<0.005	0.006	<0.005	<0.005

Miscellaneous Inorganics			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date prepared	-	29/07/2022	29/07/2022
Date analysed	-	29/07/2022	29/07/2022
pH	pH Units	6.4	5.8
Electrical Conductivity	µS/cm	35,000	5,500
Total Dissolved Solids (grav)	mg/L	32,000	4,200
Nitrate as N in water	mg/L	0.008	0.14
Total Nitrogen in water	mg/L	1.8	1.4
TKN in water	mg/L	1.8	1.2
Nitrite as N in water	mg/L	<0.005	0.008
NOx as N in water	mg/L	0.008	0.1
Ammonia as N in water	mg/L	1.3	0.43
Organic Nitrogen as N	mg/L	0.4	0.8
Phosphate as P in water	mg/L	<0.005	0.03

Metals in Waters - Total						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
Phosphorus - Total	mg/L	<0.05	<0.05	0.2	<0.05	<0.05

Metals in Waters - Total			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date prepared	-	02/08/2022	02/08/2022
Date analysed	-	02/08/2022	02/08/2022
Phosphorus - Total	mg/L	<0.05	0.07

Ion Balance						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
Date analysed	-	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
Calcium - Dissolved	mg/L	470	340	620	390	630
Potassium - Dissolved	mg/L	4	31	130	17	18
Sodium - Dissolved	mg/L	25	1,100	7,900	5,600	6,500
Magnesium - Dissolved	mg/L	7.5	110	810	810	1,200
Hardness	mgCaCO 3 /L	1,200	1,300	4,900	4,300	6,400
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	210	280	600	320	350
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	210	280	600	320	350
Sulphate, SO4	mg/L	1,100	1,500	1,200	660	1,000
Chloride, Cl	mg/L	26	1,300	12,000	9,100	11,000
Ionic Balance	%	-4.0	0	7.0	9.0	9.0

Ion Balance			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date prepared	-	29/07/2022	29/07/2022
Date analysed	-	29/07/2022	29/07/2022
Calcium - Dissolved	mg/L	800	160
Potassium - Dissolved	mg/L	30	19
Sodium - Dissolved	mg/L	7,300	600
Magnesium - Dissolved	mg/L	1,400	140
Hardness	mgCaCO 3 /L	7,900	980
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	340	330
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	340	330
Sulphate, SO4	mg/L	1,100	130
Chloride, Cl	mg/L	13,000	1,600
Ionic Balance	%	9.0	-8.0

Dissolved Gases in Water						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Methane	µg/L	<5	9	5	9	11

Dissolved Gases in Water			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date prepared	-	03/08/2022	03/08/2022
Date analysed	-	03/08/2022	03/08/2022
Methane	µg/L	<5	<5

PFAS in Water TRACE Short						
Our Reference		301795-1	301795-2	301795-3	301795-4	301795-5
Your Reference	UNITS	CZ1_BH06	CZ1_BH08	CZ1_BH13	CZ1_BH141	CZ1_BH144
Date Sampled		28/07/2022	28/07/2022	27/07/2022	27/07/2022	27/07/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Date analysed	-	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0020	0.051	0.0050	0.019	0.0033
Perfluorooctanesulfonic acid PFOS	µg/L	0.0068	0.037	0.002	0.084	0.0028
Perfluorooctanoic acid PFOA	µg/L	0.0026	0.018	0.0005	0.0055	<0.0002
6:2 FTS	µg/L	0.001	0.0005	<0.0004	0.025	0.001
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	101	103	114	108	109
Surrogate $^{13}C_2$ *PFOA*	%	106	107	105	98	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	74	84	85	87	85
Extracted ISTD $^{13}C_4$ *PFOS*	%	76	76	82	81	79
Extracted ISTD $^{13}C_4$ *PFOA*	%	70	12	89	92	87
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	159	113	103	139	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	156	57	113	129	104
Total Positive PFHxS & PFOS	µg/L	0.0088	0.088	0.0068	0.10	0.0061
Total Positive PFOS & PFOA	µg/L	0.0094	0.054	0.0022	0.090	0.0028
Total Positive PFAS	µg/L	0.013	0.11	0.0073	0.13	0.0075

PFAS in Water TRACE Short			
Our Reference		301795-6	301795-7
Your Reference	UNITS	CZ1_BH134	SMW_ADD_BH02
Date Sampled		28/07/2022	28/07/2022
Type of sample		Water	Water
Date prepared	-	04/08/2022	04/08/2022
Date analysed	-	04/08/2022	04/08/2022
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.0002	<0.0002
Perfluorooctanesulfonic acid PFOS	µg/L	0.0009	0.0037
Perfluorooctanoic acid PFOA	µg/L	0.0002	0.0025
6:2 FTS	µg/L	<0.0004	0.17
8:2 FTS	µg/L	<0.0004	<0.0004
Surrogate $^{13}C_8$ *PFOS*	%	115	111
Surrogate $^{13}C_2$ *PFOA*	%	107	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	84	78
Extracted ISTD $^{13}C_4$ *PFOS*	%	80	83
Extracted ISTD $^{13}C_4$ *PFOA*	%	85	69
Extracted ISTD$^{13}C_2$ *6:2FTS*	%	119	150
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	118	172
Total Positive PFHxS & PFOS	µg/L	0.0009	0.0037
Total Positive PFOS & PFOA	µg/L	0.001	0.0062
Total Positive PFAS	µg/L	0.001	0.17

Method ID	Methodology Summary
AT-006	Dissolved gases determined by GC-FID based on draft method USEPA SOP RSK175
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.

Method ID	Methodology Summary
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			02/08/2022	[NT]	[NT]	[NT]	[NT]	02/08/2022	[NT]
Date analysed	-			03/08/2022	[NT]	[NT]	[NT]	[NT]	03/08/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	91	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate toluene-d8	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-BFB	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			02/08/2022	[NT]	[NT]	[NT]	[NT]	02/08/2022	[NT]
Date analysed	-			03/08/2022	[NT]	[NT]	[NT]	[NT]	03/08/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	115	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	115	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	117	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	118	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	117	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	91	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate toluene-d8	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-BFB	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			03/08/2022	1	02/08/2022	02/08/2022		02/08/2022	[NT]
Date analysed	-			04/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	98	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	98	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	120	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	98	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	98	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	120	[NT]
Surrogate o-Terphenyl	%		Org-020	75	1	72	96	29	106	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	[NT]
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	81	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	80	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	89	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	75	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	82	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	96	1	92	108	16	91	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	[NT]
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	78	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	81	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	77	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	74	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	76	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	80	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	80	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	80	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	89	1	87	103	17	92	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	[NT]
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	100	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	71	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	91	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	107	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	87	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	78	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	89	1	87	103	17	92	[NT]

QUALITY CONTROL: PCBs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	[NT]
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
Aroclor 1016	µg/L	2	Org-021	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-021	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-021	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-021	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-021	<2	1	<2	<2	0	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-021	<2	1	<2	<2	0	110	[NT]
Aroclor 1260	µg/L	2	Org-021	<2	1	<2	<2	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	89	1	87	103	17	92	[NT]

QUALITY CONTROL: Total Phenolics in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301795-2
Date extracted	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	1	<0.05	<0.05	0	98	87

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	301795-2
Date prepared	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	0.5	0.5	0	103	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	102	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	4	3	29	100	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	10	10	0	107	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	97	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	9	9	0	100	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	4200	4300	2	103	[NT]
Iron-Dissolved	µg/L	10	Metals-022	<10	1	500	500	0	105	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	100	100	0	103	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	117	[NT]

QUALITY CONTROL: Metals in Water - Dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301795-2
Date digested	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Silicon*- Dissolved	mg/L	0.2	Metals-020	<0.2	1	8.3	8.3	0	113	#

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301795-2
Date prepared	-			29/07/2022	1	29/07/2022	29/07/2022		29/07/2022	29/07/2022
Date analysed	-			29/07/2022	1	29/07/2022	29/07/2022		29/07/2022	29/07/2022
pH	pH Units		Inorg-001	[NT]	1	7.1	[NT]		101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	2100	[NT]		100	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	1700	[NT]		112	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.16	0.15	6	105	96
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.8	0.8	0	92	93
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.6	0.6	0	[NT]	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.007	0.006	15	89	99
NOx as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.2	0.2	0	105	96
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.38	0.38	0	104	97
Organic Nitrogen as N	mg/L	0.2	Inorg-055/062/127	<0.2	1	0.2	0.2	0	[NT]	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	105	79

QUALITY CONTROL: Metals in Waters - Total					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	301795-2
Date prepared	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Date analysed	-			02/08/2022	1	02/08/2022	02/08/2022		02/08/2022	02/08/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	94	99

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	301795-2
Date prepared	-			29/07/2022	1	29/07/2022	29/07/2022		29/07/2022	29/07/2022
Date analysed	-			29/07/2022	1	29/07/2022	29/07/2022		29/07/2022	29/07/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	470	460	2	97	#
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	4	4	0	94	83
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	25	25	0	102	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	7.5	7.5	0	94	#
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	1200	1200	0	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	210	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	210	[NT]		85	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	1100	1100	0	94	#
Chloride, Cl	mg/L	1	Inorg-081	<1	1	26	26	0	107	#
Ionic Balance	%		Inorg-040	[NT]	1	-4.0	[NT]		[NT]	[NT]

QUALITY CONTROL: Dissolved Gases in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
Date analysed	-			03/08/2022	1	03/08/2022	03/08/2022		03/08/2022	[NT]
Methane	µg/L	5	AT-006	<5	1	<5	<5	0	100	[NT]

QUALITY CONTROL: PFAS in Water TRACE Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			04/08/2022	[NT]	[NT]	[NT]	[NT]	04/08/2022	[NT]
Date analysed	-			04/08/2022	[NT]	[NT]	[NT]	[NT]	04/08/2022	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	114	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	97	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	107	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	106	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	111	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	143	[NT]	[NT]	[NT]	[NT]	145	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	105	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle.
Note: there is a possibility some elements may be underestimated.

ION_BALANCE:# Percent recovery is not applicable due to the high concentration of the analyte/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Dissolved Metals: no filtered, preserved sample was received for #10, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

Dissolved Silicon - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

PFAS: For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

TAX INVOICE

Epic Environmental (Sydney) Pty Ltd
Suite 5, Level 9, 189 Kent Street
SYDNEY NSW 2000
Attention: Todd O'Brien

Invoice No:	**SY 622992**
Invoicing Date:	05/08/2022
Payment Due Date:	04/09/2022

Project Details

Project No. and Description	SC210108.01, SMW WTP CZ1
Envirolab Report Number	301795
Purchase Order Number	

Testing Performed / Description of Service

	Unit Cost	Qty	Total Cost
Admin Fee	$25.00	1	$25.00
VOC's in water	$69.00	7	$483.00
vTRH & BTEX in Water NEPM	$27.00	2	$54.00
Nutrent Suite	$44.00	7	$308.00
SWA	$77.00	7	$539.00
Dissolved Gases in Water	$60.00	7	$420.00
PFAS Short Suite water TRACE	$180.00	7	$1,260.00
Combination 8-TRH,BTEX,PAH,OC,OP,PCB,8Metals,Tot.Phenols in water	$142.12	7	$994.84
Cations (Na, K, Ca, Mg)	$10.00	7	$70.00
Anions (Major - Cl, SO4, Alkalinity) in water	$24.00	7	$168.00
Trip spike preparation	$50.00	1	$50.00
Invoice and GST Summary Details	**Total Amount:**		$4,371.84
	GST (10%):		$437.18
	Total Invoice Amount:		**$4,809.02**

Invoice Payment Options

Please Make Cheques Payable To	Envirolab Services Pty Ltd			
Please EFT To	*Account Name:*	Envirolab Services		
	NAB Swift Code:	NATAAU3303M		
	Bank:	National Australia Bank	*Branch:*	Marrickville NSW
	BSB:	082 356	*Account No:*	57981 3018
Remittance Advices To	*Fax No:*	02 9910 6299		
	Email:	accounts@envirolab.com.au		
VISA and Mastercard are accepted				
PLEASE NOTE: OUR PAYMENT TERMS ARE STRICTLY 30 DAYS FROM DATE OF INVOICE				

CERTIFICATE OF ANALYSIS

Work Order	: **ES2225074**	Page	: 1 of 16
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: PO BOX 13058 GEORGE STREET WEST END QLD 4003	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: SC210108.01 SMW WTP GWMP	Date Samples Received	: 15-Jul-2022 14:30
Order number	: ----	Date Analysis Commenced	: 16-Jul-2022
C-O-C number	: ----	Issue Date	: 25-Jul-2022 13:49
Sampler	: JX, MP, SR		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

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*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP202: Poor matrix spike recovery for particular compounds due to matrix interferences.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- 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.
- EK271A-CM: Samples for Ultra-Trace Reactive Phosphorus by FIA should be frozen upon sampling. If not, low-level results (below 0.01 mg/L) may bias low.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	7.07	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	13300	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	8680	----	----	----	----
EA065: Total Hardness as CaCO3								
Total Hardness as CaCO3	----	1	mg/L	1630	----	----	----	----
EA075: Redox Potential								
Redox Potential	----	0.1	mV	114	----	----	----	----
pH Redox	----	0.01	pH Unit	6.20	----	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	186	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	186	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	840	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	4730	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	131	----	----	----	----
Magnesium	7439-95-4	1	mg/L	316	----	----	----	----
Sodium	7440-23-5	1	mg/L	2210	----	----	----	----
Potassium	7440-09-7	1	mg/L	9	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.005	µg/L	0.008	----	----	----	----
EG049G LL-F: Dissolved Trivalent Chromium - Low Level								
Trivalent Chromium	16065-83-1	0.001	mg/L	<0.001	----	----	----	----
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level								
Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.001	----	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	5	----	----	----	----
Chromium	7440-47-3	0.2	µg/L	<0.2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS - Continued								
Cadmium	7440-43-9	0.05	µg/L	**0.14**	----	----	----	----
Copper	7440-50-8	0.5	µg/L	**1.8**	----	----	----	----
EK255A: Ammonia								
Ammonia as N	7664-41-7	0.005	mg/L	**0.170**	----	----	----	----
EK257A: Nitrite								
Nitrite as N	14797-65-0	0.002	mg/L	**0.099**	----	----	----	----
EK258A: Nitrate								
Nitrate as N	14797-55-8	0.002	mg/L	**1.02**	----	----	----	----
EK259A: Nitrite and Nitrate (NOx)								
Nitrite + Nitrate as N	----	0.002	mg/L	**1.12**	----	----	----	----
EK262A: Total Nitrogen								
Total Nitrogen as N	----	0.01	mg/L	**1.88**	----	----	----	----
EK267A: Total Phosphorus (Persulfate Digestion)								
Total Phosphorus as P	----	0.005	mg/L	**0.032**	----	----	----	----
EK271A: Reactive Phosphorus								
Reactive Phosphorus as P	14265-44-2	0.001	mg/L	**0.019**	----	----	----	----
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**155**	----	----	----	----
ø Total Cations	----	0.01	meq/L	**129**	----	----	----	----
ø Ionic Balance	----	0.01	%	**9.07**	----	----	----	----
EP025: Oxygen - Dissolved (DO)								
Dissolved Oxygen	----	0.1	mg/L	**5.3**	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

Compound	CAS Number	LOR	Unit	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
				ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	<5	----	----	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	----	----	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	----	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	----	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	----	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	----	----	----	----
n-Butylbenzene	104-51-8	5	µg/L	<5	----	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	----	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	----	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	----	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	----	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	----	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	----	----	----	----
Chloromethane	74-87-3	50	µg/L	<50	----	----	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	----	----	----	----
Bromomethane	74-83-9	50	µg/L	<50	----	----	----	----
Chloroethane	75-00-3	50	µg/L	<50	----	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	----	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	----	----	----	----
Iodomethane	74-88-4	5	µg/L	<5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	----	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	----	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	----	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	----	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	----	----	----	----
Trichloroethene	79-01-6	5	µg/L	<5	----	----	----	----
Dibromomethane	74-95-3	5	µg/L	<5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	----	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	----	----	----	----
Tetrachloroethene	127-18-4	5	µg/L	<5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	----	----	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	----	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	----	----	----	----
Bromobenzene	108-86-1	5	µg/L	<5	----	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	----	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	----	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	----	----	----	----
Bromodichloromethane	75-27-4	5	µg/L	<5	----	----	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	----	----	----	----
Bromoform	75-25-2	5	µg/L	<5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	2	µg/L	<2	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<2	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	<2	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP075D: Nitrosamines - Continued								
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	----	----	----	----
Methapyrilene	91-80-5	2	µg/L	<2	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L	<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	----	----	----	----
Isophorone	78-59-1	2	µg/L	<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L	<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L	<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	----	----	----	----
Pronamide	23950-58-5	2	µg/L	<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	----	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L	<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L	<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	<2	----	----	----	----
Carbazole	86-74-8	2	µg/L	<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<2	----	----	----	----
beta-BHC	319-85-7	2	µg/L	<2	----	----	----	----
gamma-BHC	58-89-9	2	µg/L	<2	----	----	----	----
delta-BHC	319-86-8	2	µg/L	<2	----	----	----	----
Heptachlor	76-44-8	2	µg/L	<2	----	----	----	----
Aldrin	309-00-2	2	µg/L	<2	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	<2	----	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L	<2	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L	<2	----	----	----	----
Dieldrin	60-57-1	2	µg/L	<2	----	----	----	----
Endrin	72-20-8	2	µg/L	<2	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L	<2	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L	<2	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	<2	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L	<4	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	----	----	----	----
Dimethoate	60-51-5	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP075J: Organophosphorus Pesticides - Continued								
Diazinon	333-41-5	2	µg/L	<2	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	----	----	----	----
Malathion	121-75-5	2	µg/L	<2	----	----	----	----
Fenthion	55-38-9	2	µg/L	<2	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	----	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L	<2	----	----	----	----
Prothiofos	34643-46-4	2	µg/L	<2	----	----	----	----
Ethion	563-12-2	2	µg/L	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	**19**	<1	----	----
Toluene	108-88-3	2	µg/L	<2	**18**	<2	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	**17**	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**17**	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	**18**	<2	----	----
^ Total Xylenes	----	2	µg/L	<2	**35**	<2	----	----
^ Sum of BTEX	----	1	µg/L	<1	**89**	<1	----	----
Naphthalene	91-20-3	5	µg/L	<5	**19**	<5	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	----	----	----	----
2.4-DB	94-82-6	10	µg/L	<10	----	----	----	----
Dicamba	1918-00-9	10	µg/L	<10	----	----	----	----
Mecoprop	93-65-2	10	µg/L	<10	----	----	----	----
MCPA	94-74-6	10	µg/L	<10	----	----	----	----
2.4-DP	120-36-5	10	µg/L	<10	----	----	----	----
2.4-D	94-75-7	10	µg/L	<10	----	----	----	----
Triclopyr	55335-06-3	10	µg/L	<10	----	----	----	----
Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	----	----	----	----
2.4.5-T	93-76-5	10	µg/L	<10	----	----	----	----
MCPB	94-81-5	10	µg/L	<10	----	----	----	----
Picloram	1918-02-1	10	µg/L	<10	----	----	----	----
Clopyralid	1702-17-6	10	µg/L	<10	----	----	----	----
Fluroxypyr	69377-81-7	10	µg/L	<10	----	----	----	----
2.6-D	575-90-6	10	µg/L	<10	----	----	----	----
2.4.6-T	575-89-3	10	µg/L	<10	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
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	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
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	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	91.5	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	104	----	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	5	%	120	----	----	----	----
Toluene-D8	2037-26-5	5	%	119	----	----	----	----
4-Bromofluorobenzene	460-00-4	5	%	112	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	27.7	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	61.9	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	59.1	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	89.2	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%	90.0	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	96.0	----	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	2	%	48.2	----	----	----	----
Phenol-d6	13127-88-3	2	%	39.7	----	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%	67.1	----	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%	72.7	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	2	%	66.7	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%	60.8	----	----	----	----
2-Fluorobiphenyl	321-60-8	2	%	69.9	----	----	----	----
Anthracene-d10	1719-06-8	2	%	91.3	----	----	----	----
4-Terphenyl-d14	1718-51-0	2	%	87.6	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	112	110	111	----	----
Toluene-D8	2037-26-5	2	%	110	101	106	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA1-S	TRIP SPIKE 01	TRIP BLANK 01	----	----
			Sampling date / time	13-Jul-2022 00:00	04-Jul-2022 00:00	05-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2225074-001	ES2225074-002	ES2225074-003	--------	--------
				Result	Result	Result	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	2	%	117	94.2	99.6	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%	128	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	95.7	----	----	----	----
13C8-PFOA	----	0.02	%	96.9	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	64	140
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2225074**		
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: PO BOX 13058 GEORGE STREET WEST END QLD 4003	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: SC210108.01 SMW WTP GWMP	Date Samples Received	: 15-Jul-2022
Order number	: ----	Date Analysis Commenced	: 16-Jul-2022
C-O-C number	: ----	Issue Date	: 25-Jul-2022
Sampler	: JX, MP, SR		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA005P: pH by PC Titrator (QC Lot: 4463365)									
ES2224880-001	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	3.78	3.77	0.3	0% - 20%
ES2224880-010	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	5.17	5.76	10.8	0% - 20%
EA010P: Conductivity by PC Titrator (QC Lot: 4463366)									
ES2224880-001	Anonymous	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	3180	3160	0.6	0% - 20%
ES2224880-010	Anonymous	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	30	28	9.2	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 4469176)									
ES2224662-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	308	298	3.1	0% - 20%
ES2225287-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1990	2010	1.0	0% - 20%
EA075: Redox Potential (QC Lot: 4463417)									
ES2225074-001	QA1-S	EA075: Redox Potential	----	0.1	mV	114	123	7.2	0% - 20%
		EA075: pH Redox	----	0.01	pH Unit	6.20	6.21	0.2	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 4463364)									
ES2224880-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	0.0	No Limit
ES2224880-010	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	2	9	113	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	2	9	113	No Limit
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 4464512)									
ES2225027-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	496	495	0.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 4464514)									

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 (%)
ED045G: Chloride by Discrete Analyser (QC Lot: 4464514) - continued									
ES2225074-001	QA1-S	ED045G: Chloride	16887-00-6	1	mg/L	4730	4560	3.5	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 4469672)									
ES2225066-004	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	45	46	0.0	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	18	18	0.0	0% - 50%
		ED093F: Sodium	7440-23-5	1	mg/L	101	103	2.1	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	2	2	0.0	No Limit
ES2225196-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	17	17	0.0	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	1	1	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	18	18	0.0	0% - 50%
		ED093F: Potassium	7440-09-7	1	mg/L	1	1	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 4466760)									
ES2225074-001	QA1-S	EG035F-UT: Mercury	7439-97-6	0.005	µg/L	0.008	0.007	13.3	No Limit
EW2203255-002	Anonymous	EG035F-UT: Mercury	7439-97-6	0.005	µg/L	<0.005	<0.005	0.0	No Limit
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level (QC Lot: 4463463)									
ES2224949-001	Anonymous	EG050G: Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.001	0.001	0.0	No Limit
ES2224949-012	Anonymous	EG050G: Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 4464200)									
ES2225125-007	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	0.6	0.7	0.0	No Limit
		EG094A-F: Copper	7440-50-8	0.5	µg/L	1.4	1.4	0.0	No Limit
		EG094A-F: Aluminium	7429-90-5	5	µg/L	167	194	15.1	0% - 20%
ES2224907-003	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.00005 mg/L	<0.05	0.0	No Limit
		EG094A-F: Chromium	7440-47-3	0.2	µg/L	0.0005 mg/L	0.4	0.0	No Limit
		EG094A-F: Copper	7440-50-8	0.5	µg/L	0.0011 mg/L	1.0	0.0	No Limit
		EG094A-F: Aluminium	7429-90-5	5	µg/L	37	46	22.8	No Limit
EK255A: Ammonia (QC Lot: 4465699)									
ES2225074-001	QA1-S	EK255A-CM: Ammonia as N	7664-41-7	0.005	mg/L	0.170	0.167	1.8	No Limit
EK257A: Nitrite (QC Lot: 4465700)									
ES2225074-001	QA1-S	EK257A-CM: Nitrite as N	14797-65-0	0.002	mg/L	0.099	0.096	3.1	No Limit
EK259A: Nitrite and Nitrate (NOx) (QC Lot: 4465697)									
ES2225074-001	QA1-S	EK259A-CM: Nitrite + Nitrate as N	----	0.002	mg/L	1.12	1.09	2.6	0% - 20%
EK262A: Total Nitrogen (QC Lot: 4466028)									
ES2225074-001	QA1-S	EK262PA-CM: Total Nitrogen as N	----	0.01	mg/L	1.88	1.82	3.4	0% - 50%
EK267A: Total Phosphorus (Persulfate Digestion) (QC Lot: 4466027)									
ES2225074-001	QA1-S	EK267PA-CM: Total Phosphorus as P	----	0.005	mg/L	0.032	0.050	42.4	0% - 50%
EK271A: Reactive Phosphorus (QC Lot: 4465698)									
ES2225074-001	QA1-S	EK271A-CM: Reactive Phosphorus as P	14265-44-2	0.001	mg/L	0.019	0.020	6.6	0% - 20%
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4466194)									

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4466194) - continued									
ES2224727-002	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES2224659-001	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 4466194)									
ES2224727-002	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES2224659-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4466194)									
ES2224727-002	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES2224659-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4466194)									
ES2224727-002	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES2224659-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074D: Fumigants (QC Lot: 4466194) - continued									
ES2224659-001	Anonymous	EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4466194)									
ES2224727-002	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES2224659-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4466194) - continued									
ES2224659-001	Anonymous	EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 4466194)									
ES2224727-002	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES2224659-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4466194)									
ES2224727-002	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES2224659-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4463356)									
ES2224606-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<0.02 mg/L	<20	0.0	No Limit
ES2224743-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<0.02 mg/L	<20	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4466195)									
ES2224659-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4468085)									
ES2225292-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	70	90	25.5	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4463356)									
ES2224606-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<0.02 mg/L	<20	0.0	No Limit
ES2224743-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<0.02 mg/L	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4466195)									
ES2224659-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4468085)									
ES2225292-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	60	80	25.4	No Limit
EP080: BTEXN (QC Lot: 4463356)									
ES2224606-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<0.001 mg/L	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
ES2224743-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<0.001 mg/L	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4466195)									
ES2224659-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4468085)									
ES2225292-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP080: BTEXN (QC Lot: 4468085) - continued									
ES2225292-002	Anonymous	EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4463627)									
EM2213416-001	Anonymous	EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4469931)									
ES2225074-001	QA1-S	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4469931)									
ES2225074-001	QA1-S	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4469931)									
ES2225074-001	QA1-S	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4469931) - continued									
ES2225074-001	QA1-S	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: 4469931)									
ES2225074-001	QA1-S	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: 4469931)									
ES2225074-001	QA1-S	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA005P: pH by PC Titrator (QCLot: 4463365)								
EA005-P: pH Value	----	----	pH Unit	----	4 pH Unit	99.8	98.8	101
				----	7 pH Unit	100	99.2	101
EA010P: Conductivity by PC Titrator (QCLot: 4463366)								
EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	220 µS/cm	101	89.9	110
				<1	2100 µS/cm	101	90.2	111
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 4469176)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	102	87.0	109
				<10	293 mg/L	118	75.2	126
				<10	2460 mg/L	103	83.0	124
EA075: Redox Potential (QCLot: 4463417)								
EA075: Redox Potential	----	----	mV	----	234 mV	98.9	96.0	106
				----	300 mV	101	97.0	105
				----	86 mV	97.4	97.0	115
ED037P: Alkalinity by PC Titrator (QCLot: 4463364)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	101	81.0	111
				----	50 mg/L	119	80.0	120
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 4464512)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	105	82.0	122
				<1	500 mg/L	98.1	82.0	122
ED045G: Chloride by Discrete Analyser (QCLot: 4464514)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	50 mg/L	109	80.9	127
				<1	1000 mg/L	106	80.9	127
ED093F: Dissolved Major Cations (QCLot: 4469672)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	101	80.0	114
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	99.2	90.0	116
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	100	82.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	98.0	85.0	113
EG035F: Dissolved Mercury by FIMS (QCLot: 4466760)								
EG035F-UT: Mercury	7439-97-6	0.005	µg/L	<0.005	0.1 µg/L	90.0	85.0	115
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level (QCLot: 4463463)								
EG050G: Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.001	0.05 mg/L	106	81.0	115
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 4464200)								
EG094A-F: Aluminium	7429-90-5	5	µg/L	<5	50 µg/L	95.7	89.0	117

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
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 4464200) - continued								
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	93.5	87.0	111
EG094A-F: Chromium	7440-47-3	0.2	µg/L	<0.2	10 µg/L	101	80.0	122
EG094A-F: Copper	7440-50-8	0.5	µg/L	<0.5	10 µg/L	93.9	83.0	117
EK255A: Ammonia (QCLot: 4465699)								
EK255A-CM: Ammonia as N	7664-41-7	0.005	mg/L	<0.005	0.1 mg/L	100	80.0	122
EK257A: Nitrite (QCLot: 4465700)								
EK257A-CM: Nitrite as N	14797-65-0	0.002	mg/L	<0.002	0.1 mg/L	95.7	87.0	129
EK259A: Nitrite and Nitrate (NOx) (QCLot: 4465697)								
EK259A-CM: Nitrite + Nitrate as N	----	0.002	mg/L	<0.002	0.1 mg/L	95.8	89.0	123
EK262A: Total Nitrogen (QCLot: 4466028)								
EK262PA-CM: Total Nitrogen as N	----	0.01	mg/L	<0.01	1 mg/L	100	78.0	112
EK267A: Total Phosphorus (Persulfate Digestion) (QCLot: 4466027)								
EK267PA-CM: Total Phosphorus as P	----	0.005	mg/L	<0.005	0.44 mg/L	105	88.0	114
EK271A: Reactive Phosphorus (QCLot: 4465698)								
EK271A-CM: Reactive Phosphorus as P	14265-44-2	0.001	mg/L	<0.001	0.1 mg/L	103	78.0	120
EP068A: Organochlorine Pesticides (OC) (QCLot: 4464350)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	74.5	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	81.7	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	79.4	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	78.2	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	87.2	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	77.4	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	74.4	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	80.3	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	80.8	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	81.7	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	80.5	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	83.5	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	80.8	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	81.0	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	85.8	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	84.2	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	86.6	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	77.7	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	75.8	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	78.9	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	78.8	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4464350)								

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
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4464350) - continued								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	85.2	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	77.1	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	24.5	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	78.6	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	87.1	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	83.3	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	85.8	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	87.9	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	82.4	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	84.0	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	86.2	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	80.3	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	82.6	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	84.5	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	83.1	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	81.7	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	76.3	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	80.4	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	82.8	51.6	128
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4466194)								
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	97.4	73.0	119
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	95.3	76.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	94.2	69.0	119
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	93.6	74.0	116
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	93.8	73.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	93.7	74.0	116
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	94.5	72.0	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	94.1	71.0	119
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	93.8	65.0	123
EP074B: Oxygenated Compounds (QCLot: 4466194)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	107	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	77.7	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	96.4	66.0	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	71.3	65.0	137
EP074C: Sulfonated Compounds (QCLot: 4466194)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	82.1	72.8	127
EP074D: Fumigants (QCLot: 4466194)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	92.8	68.0	122

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
EP074D: Fumigants (QCLot: 4466194) - continued								
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	99.6	76.0	118
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	10 µg/L	96.9	62.0	120
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	10 µg/L	96.8	60.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	100	69.0	117
EP074E: Halogenated Aliphatic Compounds (QCLot: 4466194)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	82.0	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	91.3	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	87.6	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	89.8	56.0	140
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	90.0	61.0	139
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	91.3	69.0	131
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	93.7	70.0	124
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	75.6	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	96.2	74.0	118
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	96.9	74.0	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	96.6	77.0	119
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	93.2	67.0	119
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	96.4	73.0	119
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	90.9	62.0	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	104	73.0	123
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	97.3	76.0	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	101	73.0	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	102	72.0	126
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	102	71.0	129
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	91.2	72.0	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	91.2	66.0	114
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	101	60.0	120
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	105	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	108	70.0	124
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	114	74.0	126
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	101	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	105	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 4466194)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	100.0	79.0	117
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	96.8	76.0	116
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	96.6	73.0	119
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	95.3	73.0	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	98.2	67.0	123

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
EP074G: Trihalomethanes (QCLot: 4466194)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	98.0	72.0	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	94.2	64.0	118
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	94.0	65.0	115
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	92.6	73.5	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4464349)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	75.2	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	80.5	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	69.8	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	74.8	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	69.1	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	74.2	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	78.3	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	80.7	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	76.2	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	66.6	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	78.0	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	69.2	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	69.9	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	68.0	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	70.8	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	69.1	59.1	118
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4464351)								
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	70.3	59.0	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	78.8	60.6	106
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	94.4	59.7	110
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	91.2	50.0	108
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	74.9	60.1	110
EP075C: Phthalate Esters (QCLot: 4464351)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	78.5	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	79.8	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	81.1	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	78.8	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	µg/L	----	10 µg/L	78.2	60.0	132
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	73.6	62.1	115
EP075D: Nitrosamines (QCLot: 4464351)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	55.6	46.0	110
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	64.1	60.6	113

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
EP075D: Nitrosamines (QCLot: 4464351) - continued								
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	58.0	45.0	91.0
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	53.5	42.0	100
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	71.0	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	68.8	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	64.7	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	20 µg/L	79.7	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	41.5	23.3	125
EP075E: Nitroaromatics and Ketones (QCLot: 4464351)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	46.4	41.0	109
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	69.5	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	69.0	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	69.0	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	72.8	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	77.7	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	83.6	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	88.2	40.0	96.0
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	82.6	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	74.4	66.0	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	78.8	46.0	108
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	79.8	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	77.3	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	76.5	59.0	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	81.6	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	73.3	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	75.3	57.7	110
EP075F: Haloethers (QCLot: 4464351)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	# 69.0	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	69.0	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	74.1	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	75.8	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 4464351)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	63.6	41.0	97.0
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	62.0	40.0	96.0
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	65.1	41.0	95.0
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	63.5	46.0	88.0
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	66.8	46.0	96.0
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	67.9	34.0	96.0

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
EP075G: Chlorinated Hydrocarbons (QCLot: 4464351) - continued								
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	66.9	37.4	100
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	74.0	23.5	107
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	75.3	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	76.4	65.7	110
EP075H: Anilines and Benzidines (QCLot: 4464351)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	58.7	50.0	104
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	67.8	42.0	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	74.9	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	82.0	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	74.7	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	84.3	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	83.2	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	91.2	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 4464351)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	10 µg/L	78.5	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	10 µg/L	81.4	53.0	107
EP075: gamma-BHC	58-89-9	2	µg/L	<2	10 µg/L	83.5	51.0	111
EP075: delta-BHC	319-86-8	2	µg/L	<2	10 µg/L	80.8	57.0	111
EP075: Heptachlor	76-44-8	2	µg/L	<2	10 µg/L	76.4	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	10 µg/L	75.7	56.0	112
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	10 µg/L	77.4	50.0	118
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	10 µg/L	77.4	59.0	111
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	10 µg/L	77.0	53.0	115
EP075: Dieldrin	60-57-1	2	µg/L	<2	10 µg/L	77.2	59.0	115
EP075: Endrin	72-20-8	2	µg/L	<2	10 µg/L	82.3	58.0	114
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	10 µg/L	73.0	54.0	116
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	10 µg/L	74.6	55.0	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	10 µg/L	85.4	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	10 µg/L	78.6	56.0	114
EP075: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
EP075: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 4464351)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	10 µg/L	76.8	51.0	113
EP075: Dimethoate	60-51-5	2	µg/L	<2	10 µg/L	79.3	43.0	109
EP075: Diazinon	333-41-5	2	µg/L	<2	10 µg/L	79.8	49.0	113
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	10 µg/L	81.1	54.1	116

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
EP075J: Organophosphorus Pesticides (QCLot: 4464351) - continued								
EP075: Malathion	121-75-5	2	µg/L	<2	10 µg/L	87.6	54.0	124
EP075: Fenthion	55-38-9	2	µg/L	<2	10 µg/L	78.8	57.0	115
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	10 µg/L	75.8	53.0	109
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	10 µg/L	75.7	55.0	111
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	10 µg/L	78.6	50.0	116
EP075: Prothiofos	34643-46-4	2	µg/L	<2	10 µg/L	72.4	54.0	118
EP075: Ethion	563-12-2	2	µg/L	<2	10 µg/L	79.4	51.0	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4463356)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	85.6	75.0	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4464348)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	67.0	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	73.6	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	66.7	58.3	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4466195)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	84.2	75.0	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4468085)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	102	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4463356)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	86.9	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4464348)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	55.1	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	75.5	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	61.4	50.5	115
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4466195)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	85.0	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4468085)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	117	75.0	127
EP080: BTEXN (QCLot: 4463356)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.8	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	104	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	105	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	106	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	105	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	103	70.0	120
EP080: BTEXN (QCLot: 4466195)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	97.0	70.0	122

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
EP080: BTEXN (QCLot: 4466195) - continued								
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	105	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	107	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	106	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	108	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	103	70.0	120
EP080: BTEXN (QCLot: 4468085)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	93.6	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	92.6	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	92.4	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	94.5	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	99.3	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	96.6	70.0	120
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4463627)								
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	101	82.0	136
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	95.8	65.0	147
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	98.0	83.0	137
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	97.3	75.0	143
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	98.9	76.0	140
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	93.3	76.0	144
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	93.0	77.0	139
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	85.5	77.0	141
EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	100 µg/L	90.9	75.0	143
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	91.1	78.0	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	120	69.2	139
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	92.3	70.0	144
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	97.4	70.0	145
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	95.8	77.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4469931)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	82.2	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	86.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	91.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	95.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	96.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4469931)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	83.0	73.0	129

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
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4469931) - continued								
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	109	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	82.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.2	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: 4469931)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	82.2	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	79.1	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	87.3	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	84.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4469931)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	108	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	95.8	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	92.2	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	90.8	71.4	144

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 4464512)							
ES2225027-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70.0	130

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
ED045G: Chloride by Discrete Analyser (QCLot: 4464514)							
ES2225074-001	QA1-S	ED045G: Chloride	16887-00-6	50 mg/L	# Not Determined	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 4466760)							
EW2203255-001	Anonymous	EG035F-UT: Mercury	7439-97-6	0.1 µg/L	95.0	70.0	130
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level (QCLot: 4463463)							
ES2224949-001	Anonymous	EG050G: Hexavalent Chromium	18540-29-9	0.05 mg/L	80.6	70.0	130
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 4464200)							
ES2224907-010	Anonymous	EG094A-F: Cadmium	7440-43-9	12.5 µg/L	100	70.0	130
		EG094A-F: Chromium	7440-47-3	50 µg/L	70.6	70.0	130
		EG094A-F: Copper	7440-50-8	50 µg/L	99.8	70.0	130
EK255A: Ammonia (QCLot: 4465699)							
ES2225074-001	QA1-S	EK255A-CM: Ammonia as N	7664-41-7	1 mg/L	99.0	70.0	130
EK257A: Nitrite (QCLot: 4465700)							
ES2225074-001	QA1-S	EK257A-CM: Nitrite as N	14797-65-0	1 mg/L	95.8	70.0	130
EK259A: Nitrite and Nitrate (NOx) (QCLot: 4465697)							
ES2225074-001	QA1-S	EK259A-CM: Nitrite + Nitrate as N	----	1 mg/L	85.8	70.0	130
EK262A: Total Nitrogen (QCLot: 4466028)							
ES2225074-001	QA1-S	EK262PA-CM: Total Nitrogen as N	----	5 mg/L	106	70.0	130
EK267A: Total Phosphorus (Persulfate Digestion) (QCLot: 4466027)							
ES2225074-001	QA1-S	EK267PA-CM: Total Phosphorus as P	----	0.5 mg/L	107	70.0	130
EK271A: Reactive Phosphorus (QCLot: 4465698)							
ES2225074-001	QA1-S	EK271A-CM: Reactive Phosphorus as P	14265-44-2	0.1 mg/L	102	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4466194)							
ES2224659-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	74.4	70.0	130
		EP074: Trichloroethene	79-01-6	25 µg/L	90.0	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4466194)							
ES2224659-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	102	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4463356)							
ES2224606-005	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	117	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4466195)							
ES2224659-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	90.7	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4468085)							
ES2225292-002	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4463356)							

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%) Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4463356) - continued							
ES2224606-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	114	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4466195)							
ES2224659-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	99.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4468085)							
ES2225292-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	111	70.0	130
EP080: BTEXN (QCLot: 4463356)							
ES2224606-005	Anonymous	EP080: Benzene	71-43-2	25 µg/L	115	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	111	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	114	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	114	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	117	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	115	70.0	130
EP080: BTEXN (QCLot: 4466195)							
ES2224659-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	96.9	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	97.0	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	99.6	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	99.3	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	103	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	100	70.0	130
EP080: BTEXN (QCLot: 4468085)							
ES2225292-002	Anonymous	EP080: Benzene	71-43-2	25 µg/L	90.3	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	87.5	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	89.9	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	88.9	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	89.5	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	78.3	70.0	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4463627)							
EM2213416-001	Anonymous	EP202-SL: Mecoprop	93-65-2	100 µg/L	95.3	75.0	143
		EP202-SL: MCPA	94-74-6	100 µg/L	90.5	76.0	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	96.3	77.0	139
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	98.4	77.0	141
		EP202-SL: 2.4.5-T	93-76-5	100 µg/L	99.5	78.0	140
		EP202-SL: Picloram	1918-02-1	100 µg/L	110	70.0	144
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	# 37.8	70.0	145

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4469931)							
ES2225074-001	QA1-S	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	84.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	80.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	85.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	96.8	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	91.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	104	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4469931)							
ES2225074-001	QA1-S	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	76.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	106	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	89.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	85.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	100	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.2	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	95.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	79.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	85.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	101	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4469931)							
ES2225074-001	QA1-S	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	96.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	93.9	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	81.5	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	72.2	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	81.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	89.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	89.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4469931)							
ES2225074-001	QA1-S	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	87.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	96.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	88.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	88.6	71.4	144

Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2225074**	Page	: 1 of 13
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Telephone	: +61-2-8784 8555
Project	: SC210108.01 SMW WTP GWMP	Date Samples Received	: 15-Jul-2022
Site	: ----	Issue Date	: 25-Jul-2022
Sampler	: JX, MP, SR	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **Laboratory Control 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

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

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
Laboratory Control Spike (LCS) Recoveries							
EP075F: Haloethers	QC-4464351-002	----	**Bis(2-chloroethyl) ether**	111-44-4	69.0 %	69.1-112%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	ES2225027--001	Anonymous	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED045G: Chloride by Discrete Analyser	ES2225074--001	QA1-S	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP202A: Phenoxyacetic Acid Herbicides by LCMS	EM2213416--001	Anonymous	**Clopyralid**	1702-17-6	37.8 %	70.0-145%	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA005P: pH by PC Titrator						
Clear Plastic Bottle - Natural QA1-S	----	----	----	16-Jul-2022	13-Jul-2022	**3**
EA075: Redox Potential						
Clear Plastic Bottle - Natural QA1-S	----	----	----	16-Jul-2022	13-Jul-2022	**3**
EK255A: Ammonia						
Clear Plastic Bottle - Natural QA1-S	----	----	----	18-Jul-2022	14-Jul-2022	**4**
EK257A: Nitrite						
Clear Plastic Bottle - Natural QA1-S	----	----	----	18-Jul-2022	14-Jul-2022	**4**
EK259A: Nitrite and Nitrate (NOx)						
Clear Plastic Bottle - Natural QA1-S	----	----	----	18-Jul-2022	14-Jul-2022	**4**
EK262A: Total Nitrogen						
Clear Plastic Bottle - Natural QA1-S	18-Jul-2022	14-Jul-2022	**4**	18-Jul-2022	14-Jul-2022	**4**
EK267A: Total Phosphorus (Persulfate Digestion)						
Clear Plastic Bottle - Natural QA1-S	18-Jul-2022	14-Jul-2022	**4**	18-Jul-2022	14-Jul-2022	**4**
EK271A: Reactive Phosphorus						

Matrix: **WATER**

Method	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK271A: Reactive Phosphorus - Analysis Holding Time Compliance						
Clear Plastic Bottle - Natural						
QA1-S	----	----	----	18-Jul-2022	15-Jul-2022	**3**
EP025: Oxygen - Dissolved (DO)						
Clear Plastic Bottle - Natural						
QA1-S	----	----	----	16-Jul-2022	13-Jul-2022	**3**

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)					
PAH/Phenols (GC/MS - SIM)	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	19	5.26	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	7	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	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA005P: pH by PC Titrator							
Clear Plastic Bottle - Natural (EA005-P)							
QA1-S	**13-Jul-2022**	**----**	----	----	**16-Jul-2022**	13-Jul-2022	✗
EA010P: Conductivity by PC Titrator							
Clear Plastic Bottle - Natural (EA010-P)							
QA1-S	**13-Jul-2022**	**----**	----	----	**16-Jul-2022**	10-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H)							
QA1-S	**13-Jul-2022**	----	----	----	**20-Jul-2022**	20-Jul-2022	✓
EA065: Total Hardness as CaCO3							
Clear HDPE (U-T ORC) - Filtered; Lab-acidified (ED093F)							
QA1-S	**13-Jul-2022**	----	----	----	**20-Jul-2022**	10-Aug-2022	✓
EA075: Redox Potential							
Clear Plastic Bottle - Natural (EA075)							
QA1-S	**13-Jul-2022**	----	----	----	**16-Jul-2022**	13-Jul-2022	×
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
QA1-S	**13-Jul-2022**	----	----	----	**16-Jul-2022**	27-Jul-2022	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	10-Aug-2022	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	10-Aug-2022	✓
ED093F: Dissolved Major Cations							
Clear HDPE (U-T ORC) - Filtered; Lab-acidified (ED093F)							
QA1-S	**13-Jul-2022**	----	----	----	**20-Jul-2022**	10-Aug-2022	✓
EG035F: Dissolved Mercury by FIMS							
Clear HDPE (U-T ORC) - Filtered; Lab-acidified (EG035F-UT)							
QA1-S	**13-Jul-2022**	----	----	----	**19-Jul-2022**	10-Aug-2022	✓
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level							
Clear Plastic Bottle - NaOH Filtered (EG050G LL-F)							
QA1-S	**13-Jul-2022**	----	----	----	**17-Jul-2022**	10-Aug-2022	✓
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS							
Clear HDPE (U-T ORC) - Filtered; Lab-acidified (EG094A-F)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	09-Jan-2023	✓
EK255A: Ammonia							
Clear Plastic Bottle - Natural (EK255A-CM)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	14-Jul-2022	×
EK257A: Nitrite							
Clear Plastic Bottle - Natural (EK257A-CM)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	14-Jul-2022	×
EK259A: Nitrite and Nitrate (NOx)							
Clear Plastic Bottle - Natural (EK259A-CM)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	14-Jul-2022	×

Work Order : ES2225074
Client : EPIC ENVIRONMENTAL
Project : SC210108.01 SMW WTP GWMP

Matrix: **WATER**

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

Method	*Sample Date*	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)		*Date extracted*	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EK262A: Total Nitrogen							
Clear Plastic Bottle - Natural (EK262PA-CM)							
QA1-S	**13-Jul-2022**	**18-Jul-2022**	14-Jul-2022	✘	**18-Jul-2022**	14-Jul-2022	✘
EK267A: Total Phosphorus (Persulfate Digestion)							
Clear Plastic Bottle - Natural (EK267PA-CM)							
QA1-S	**13-Jul-2022**	**18-Jul-2022**	14-Jul-2022	✘	**18-Jul-2022**	14-Jul-2022	✘
EK271A: Reactive Phosphorus							
Clear Plastic Bottle - Natural (EK271A-CM)							
QA1-S	**13-Jul-2022**	----	----	----	**18-Jul-2022**	15-Jul-2022	✘
EP025: Oxygen - Dissolved (DO)							
Clear Plastic Bottle - Natural (EP025)							
QA1-S	**13-Jul-2022**	----	----	----	**16-Jul-2022**	13-Jul-2022	✘
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved (EP075) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) QA1-S	**13-Jul-2022**	**18-Jul-2022**	20-Jul-2022	✓	**19-Jul-2022**	27-Aug-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓

Matrix: **WATER**

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

Method	*Sample Date*	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)		*Date extracted*	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) TRIP SPIKE 01	**04-Jul-2022**	**18-Jul-2022**	18-Jul-2022	✓	**18-Jul-2022**	18-Jul-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) TRIP BLANK 01	**05-Jul-2022**	**19-Jul-2022**	19-Jul-2022	✓	**19-Jul-2022**	19-Jul-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QA1-S	**13-Jul-2022**	**20-Jul-2022**	27-Jul-2022	✓	**20-Jul-2022**	27-Jul-2022	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Amber Glass Bottle - Unpreserved (EP202-SL) QA1-S	**13-Jul-2022**	**----**	----	----	**18-Jul-2022**	20-Jul-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) QA1-S	**13-Jul-2022**	**20-Jul-2022**	09-Jan-2023	✓	**22-Jul-2022**	09-Jan-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) QA1-S	**13-Jul-2022**	**20-Jul-2022**	09-Jan-2023	✓	**22-Jul-2022**	09-Jan-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) QA1-S	**13-Jul-2022**	**20-Jul-2022**	09-Jan-2023	✓	**22-Jul-2022**	09-Jan-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) QA1-S	**13-Jul-2022**	**20-Jul-2022**	09-Jan-2023	✓	**22-Jul-2022**	09-Jan-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) QA1-S	**13-Jul-2022**	**20-Jul-2022**	09-Jan-2023	✓	**22-Jul-2022**	09-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)							
Alkalinity by Auto Titrator	ED037-P	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N - Ultra-Trace for Catchment Monitoring	EK255A-CM	1	2	**50.00**	**9.09**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS - Ultra-trace	EG035F-UT	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M	EK259A-CM	1	2	**50.00**	**9.52**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Ultra-Trace for Catchment Monitoring	EK257A-CM	1	2	**50.00**	**9.52**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	3	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
pH by Auto Titrator	EA005-P	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P - Ultra-Trace for Catchment M	EK271A-CM	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Redox Potential	EA075	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	2	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM	EK262PA-CM	1	2	**50.00**	**9.52**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM	EK267PA-CM	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	7	**0.00**	**10.00**	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	36	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N - Ultra-Trace for Catchment Monitoring	EK255A-CM	1	2	**50.00**	**4.55**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	4	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	3	19	**15.79**	**8.33**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS - Ultra-trace	EG035F-UT	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M	EK259A-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Ultra-Trace for Catchment Monitoring	EK257A-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH by Auto Titrator	EA005-P	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P - Ultra-Trace for Catchment M	EK271A-CM	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Redox Potential	EA075	3	2	**150.00**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	8	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	3	19	**15.79**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM	EK262PA-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM	EK267PA-CM	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	36	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N - Ultra-Trace for Catchment Monitoring	EK255A-CM	1	2	**50.00**	**4.55**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	1	19	**5.26**	**1.67**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS - Ultra-trace	EG035F-UT	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M	EK259A-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Ultra-Trace for Catchment Monitoring	EK257A-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P - Ultra-Trace for Catchment M	EK271A-CM	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM	EK262PA-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	**Actual**	**Expected**	*Evaluation*	
Method Blanks (MB) - Continued							
Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM	EK267PA-CM	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	36	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N - Ultra-Trace for Catchment Monitoring	EK255A-CM	1	2	**50.00**	**4.55**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS - Ultra-trace	EG035F-UT	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M	EK259A-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Ultra-Trace for Catchment Monitoring	EK257A-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P - Ultra-Trace for Catchment M	EK271A-CM	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM	EK262PA-CM	1	2	**50.00**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM	EK267PA-CM	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	36	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
pH by Auto Titrator	EA005-P	WATER	In house: Referenced to APHA 4500 H+ B. This procedure determines pH of water samples by automated ISE. This method is compliant with NEPM Schedule B(3)
Conductivity by Auto Titrator	EA010-P	WATER	In house: Referenced to APHA 2510 B. This procedure determines conductivity by automated ISE. This method is compliant with NEPM Schedule B(3)
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Redox Potential	EA075	WATER	In house: Ion selective electrode
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Mercury by FIMS - Ultra-trace	EG035F-UT	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve.
Trivalent Chromium - Dissolved (Low Level)	EG049F ORC FW	WATER	In house: Referenced to APHA 3500 Cr-B & 3125. Trivalent Chromium is the difference between total dissolved (ICPMS) and dissolved hexavalent chromium (UV-VIS).
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	WATER	In house: Referenced to APHA 3500 Cr-A & B. Samples are 0.45µm filtered prior to analysis. Hexavalent chromium is determined directly on water sample by Descrete Analyser as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3).

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020 Samples are 0.45µm filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM Schedule B(3).
Ammonia as N - Ultra-Trace for Catchment Monitoring	EK255A-CM	WATER	In house: Referenced to APHA 4500-NH3 H. Ammonia is determined by direct colorimetry by FIA. This method is compliant with NEPM Schedule B(3)
Nitrite as N - Ultra-Trace for Catchment Monitoring	EK257A-CM	WATER	In house: Referenced to APHA 4500-NO2- B. Nitrite is determined by direct colourimetry by FIA.
Nitrate as N - Ultra-Trace for Catchment Monitoring	EK258A-CM	WATER	In house: Referenced to APHA 4500-NO3- I Nitrate is reduced to nitrite by way of a cadmium reduction column followed by quantification by FIA. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M	EK259A-CM	WATER	In house: Referenced to APHA 4500-NO3- I. Combined oxidised Nitrogen (NO2+NO3) is determined by Cadmium Reduction and direct colourimetry by FIA.
Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM	EK262PA-CM	WATER	In house: Referenced to APHA 4500-P J. Persulfate Method for Simultaneous Determination of Total Nitrogen and Total Phosphorus. As sample is digested with persulfate under alkaline conditions yielding orthophosphate and nitrate. Following digestion, analytes are determined by flow injection analysis. This method is compliant with NEPM Schedule B(3)
Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM	EK267PA-CM	WATER	In house: Referenced to APHA 4500-P J. Persulfate Method for Simultaneous Determination of Total Nitrogen and Total Phosphorus. As sample is digested with persulfate under alkaline conditions yielding orthophosphate and nitrate. Following digestion, analytes are determined by flow injection analysis. This method is compliant with NEPM Schedule B(3)
Reactive Phosphorus as P - Ultra-Trace for Catchment M	EK271A-CM	WATER	In house: Referenced to APHA 4500-P E Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by FIA. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Oxygen - Dissolved	EP025	WATER	In house: Referenced to APHA 4500-O G. Dissolved Oxygen Probe. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	WATER	In house: LCMS (Electrospray in negative mode). After adding surrogate and acetic acid, water samples are injected on a C18 column for LC/MS determination.
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*
Persulfate Digestion for UT TN and TP for FIA finish.	EK262/267-PA Prep	WATER	In house: Referenced to APHA 4500 P - J. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.
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

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2225074**

Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: PO BOX 13058 GEORGE STREET WEST END QLD 4003	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: srocks@epicenvironmental.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SC210108.01 SMW WTP GWMP	Page	: 1 of 4
Order number	: ----	Quote number	: EB2017EPIENV0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: JX, MP, SR		

Dates

Date Samples Received	: 15-Jul-2022 14:30	Issue Date	: 16-Jul-2022
Client Requested Due Date	: 22-Jul-2022	Scheduled Reporting Date	: **22-Jul-2022**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 1.2'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

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

Sample Container(s)/Preservation Non-Compliances

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

Method *Sample ID*	Sample Container Received	Preferred Sample Container for Analysis
Ammonia as N - Ultra-Trace for Catchment Monitoring : EK255A-CM		
QA1-S	- Clear Plastic Bottle - Natural	- Clear Plastic - Filtered (AS/ISO) - for UT Nut.
Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M : EK259A-CM		
QA1-S	- Clear Plastic Bottle - Natural	- Clear Plastic - Filtered (AS/ISO) - for UT Nut.
Nitrite as N - Ultra-Trace for Catchment Monitoring : EK257A-CM		
QA1-S	- Clear Plastic Bottle - Natural	- Clear Plastic - Filtered (AS/ISO) - for UT Nut.
Reactive Phosphorus as P - Ultra-Trace for Catchment M : EK271A-CM		
QA1-S	- Clear Plastic Bottle - Natural	- Clear Plastic - Filtered (AS/ISO) - for UT Nut.
Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM : EK262PA-CM		
QA1-S	- Clear Plastic Bottle - Natural	- Clear Plastic Bottle - Natural (AS)
Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM : EK267PA-CM		
QA1-S	- Clear Plastic Bottle - Natural	- Clear Plastic Bottle - Natural (AS)

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 - EA005P pH (Auto Titrator)	WATER - EA010P Electrical Conductivity (Auto Titrator)	WATER - EA075 Redox Potential	WATER - EK259A-CM NOx as N (Ultra-trace by Flow Injection Analysis)	WATER - EK262PA-CM Total Nitrogen by Persulfate Digestion	WATER - EP025 Dissolved Oxygen (DO)	WATER - NT-01D & 02 Major Cations & Anions (Ca, Mg, Na, K, Cl, SO4,
ES2225074-001	13-Jul-2022 00:00	QA1-S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EK255A-CM Ammonia as N (Ultra-trace by Flow Injection	WATER - EK257A-CM Nitrite as N (Ultra-trace by Flow Injection	WATER - EK258A-CM Nitrate as N by difference between NOx and	WATER - EK267PA-CM Total Phosphorus by Persulfate Digestion	WATER - EK271A-CM Reactive Phosphorus (Ultra-trace by Flow	WATER - W-07 TRH/BTEXN/PAH	WATER - W-12 OC/OP Pesticides
ES2225074-001	13-Jul-2022 00:00	QA1-S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG035F-UT Dissolved Mercury - Ultra-Trace	WATER - EG049F_ORC_FW Trivalent Chromium - Dissolved (Low Level)	WATER - EG094A-F Dissolved Metals in Fresh Water -Suite A by	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - W-23 minus BTEX SVOC/VOC without BTEX
ES2225074-001	13-Jul-2022 00:00	QA1-S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP080 BTEXN
ES2225074-002	04-Jul-2022 00:00	TRIP SPIKE 01	✓
ES2225074-003	05-Jul-2022 00:00	TRIP BLANK 01	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER**

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

Method Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received		Instructions Received	
				Date	Evaluation	Date	Evaluation
EA005-P: pH by Auto Titrator							
QA1-S	Clear Plastic Bottle - Natural	----	13-Jul-2022	15-Jul-2022	✗	----	----
EA075: Redox Potential							
QA1-S	Clear Plastic Bottle - Natural	----	13-Jul-2022	15-Jul-2022	✗	----	----
EK255A-CM: Ammonia as N - Ultra-Trace for Catchment Monitoring							
QA1-S	Clear Plastic Bottle - Natural	----	14-Jul-2022	15-Jul-2022	✗	----	----
EK257A-CM: Nitrite as N - Ultra-Trace for Catchment Monitoring							
QA1-S	Clear Plastic Bottle - Natural	----	14-Jul-2022	15-Jul-2022	✗	----	----
EK259A-CM: Nitrite and Nitrate as N (NOx) - Ultra-Trace for Catchment M							
QA1-S	Clear Plastic Bottle - Natural	----	14-Jul-2022	15-Jul-2022	✗	----	----
EK262PA-CM: Total Nitrogen as N (Persulfate digestion)-Ultra-Trace - CM							
QA1-S	Clear Plastic Bottle - Natural	14-Jul-2022	14-Jul-2022	15-Jul-2022	✗	----	----
EK267PA-CM: Total Phosphorus(Persulfate Digestion) - Ultra-Trace for CM							
QA1-S	Clear Plastic Bottle - Natural	14-Jul-2022	14-Jul-2022	15-Jul-2022	✗	----	----
EP025: Oxygen - Dissolved							
QA1-S	Clear Plastic Bottle - Natural	----	13-Jul-2022	15-Jul-2022	✗	----	----

Requested Deliverables

DAVID HARRIS		
- *AU Certificate of Analysis - NATA (COA)	Email	dharris@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	dharris@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	dharris@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	dharris@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	dharris@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	dharris@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	dharris@epicenvironmental.com.au
ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	epicenvironmental@esdat.com.au
INVOICES		
- A4 - AU Tax Invoice (INV)	Email	accounts@epicenvironmental.com.au
INVOICES & RESULTS		
- *AU Certificate of Analysis - NATA (COA)	Email	labs@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	labs@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	labs@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	labs@epicenvironmental.com.au
- A4 - AU Tax Invoice (INV)	Email	labs@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	labs@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	labs@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	labs@epicenvironmental.com.au
STEVE ROCKS		
- *AU Certificate of Analysis - NATA (COA)	Email	srocks@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	srocks@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	srocks@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	srocks@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	srocks@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	srocks@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	srocks@epicenvironmental.com.au

epic ENVIRONMENTAL

Chain of Custody Record

Project No:	SC210108.01
Project/Site:	SMW WTP GWMP
Project Manager:	Steve Rocks
Sampled By:	SR, MP, JX
Phone:	0414 776 988
Page:	1 of 1
Number of Eskies:	1

Lab:	Envirolab
Lab Quote No:	
Lab Batch No:	
Turnaround time:	STANDARD TURNAROUND.
Sample Disposal After:	

#	SAMPLE ID	Lab ID	DATE/TIME	MATRIX	Soil / Solid: 150-250ml Glass Jar	Soil / Solid: 200ml Plastic Jar	Soil / Solid: Plastic bag	Water / Liquid: 2x 40ml Amber Vial	Water / Liquid: 100-500ml Amber Bottle	Water / Liquid: 60ml Metals	Water / Liquid: 60ml Nutrients	Water / Liquid: 250-500ml Plastic (Unpreserved)	Water / Liquid: 60-250ml Plastic (PFAS)	Other	WQ Parameters: pH, EC, ORP, DO, TDS, Alkalinity, Hardness	Major Ions	Extended Metals - UltraTrace: Al, As III, As V, Cd, Cr III, Cr VI, Cu, Hg,	Nutrients (Trace)	TRH + BTEXN	PAH	OCP / OPP	Herbicides	VOC / SVOC	PFAS	BTEXN			HOLD
															X	X	X	X	X	X	X	X	X	X				
1	QA1_S		13/07/2022	W																					X			
2	Trip Spike 01		13/07/2022	W																					X			
3	Trip Blank 01		13/07/2022	W																								
4																												
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20																												
				TOTALS																								

Environmental Division
Sydney
Work Order Reference
ES2225074

Telephone : +61-2-8784 8555

Relinquished By: S.R
NAME STEVE ROCKS srocks (srocks@epicenvironmental.com.au) SIGNATURE DATE 13-Jul-22

Received By: NAME SIGNATURE DATE 15/7/22 1430

Custody Seals Intact Y N
Samples Received Chilled Y N
Method of Shipment 1-2

Email ###

NOTES: * ULTRA-TRACE EXTENDED SUITE METALS & TRACE NUTRIENTS PLEASE
** ESDAT RESULTS (srocks@epicenvironmental.com.au & dharris@epicenvironmental.com.au cc.com.au

cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2225151**

Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: SUITE 4.01 55 MILLER STREET PYRMONT 2009	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: srocks@epicenvironmental.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SC210108.01 SMW WTP GWMP	Page	: 1 of 3
Order number	: ----	Quote number	: EB2017EPIENV0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: JX, MP, SR		

Dates

Date Samples Received	: 15-Jul-2022 17:00	Issue Date	: 15-Jul-2022
Client Requested Due Date	: 22-Jul-2022	Scheduled Reporting Date	: **22-Jul-2022**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 14.4'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Unable to conduct Arsenic Speciation as no white opaque bottle received.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA075 Redox Potential	WATER - ED093F + EA006 + EA065 Dissolved Major Cations + SAR + Hardness	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - NT-08A Total Nitrogen + NO2 + NO3 + NH3 + Total P +	WATER - W-07 TRH/BTEXN/PAH	WATER - W-12 OC/OP Pesticides	WATER - W-23 minus BTEX SVOC/VOC without BTEX
ES2225151-001	13-Jul-2022 00:00	QA2_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA005P pH (Auto Titrator)	WATER - EA010P Electrical Conductivity (Auto Titrator)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG049G LL-F Dissolved Trivalent Chromium by DA - Low Level	WATER - EP025 Dissolved Oxygen (DO)	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2225151-001	13-Jul-2022 00:00	QA2_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EG094-F Dissolved Metals by ORC - Ultra Trace in Fresh	WATER - EP080 BTEXN	WATER - W-18 TRH(C6 - C9)/BTEXN
ES2225151-001	13-Jul-2022 00:00	QA2_S	✓		
ES2225151-002	04-Jul-2022 00:00	Trip Spike		✓	
ES2225151-003	05-Jul-2022 00:00	Trip Blank			✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER**

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

Method Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EA005-P: pH by Auto Titrator							
QA2_S	Clear Plastic Bottle - Natural	----	13-Jul-2022	15-Jul-2022	×	----	----
EA075: Redox Potential							
QA2_S	Clear Plastic Bottle - Natural	----	13-Jul-2022	15-Jul-2022	×	----	----
EP025: Oxygen - Dissolved							
QA2_S	Clear Plastic Bottle - Natural	----	13-Jul-2022	15-Jul-2022	×	----	----

Requested Deliverables

ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)	Email	epicenvironmental@esdat.com.au

INVOICES

- A4 - AU Tax Invoice (INV)	Email	accounts@epicenvironmental.com.au

STEVE ROCKS

- *AU Certificate of Analysis - NATA (COA)	Email	srocks@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	srocks@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	srocks@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	srocks@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	srocks@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	srocks@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	srocks@epicenvironmental.com.au

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **ES2225151**		
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: SUITE 4.01 55 MILLER STREET PYRMONT 2009	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: srocks@epicenvironmental.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SC210108.01 SMW WTP GWMP	Page	: 1 of 3
Order number	: ----	Quote number	: EB2017EPIENV0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: JX, MP, SR		

Dates

Date Samples Received	: 15-Jul-2022 17:00	Issue Date	: 18-Jul-2022
Client Requested Due Date	: 22-Jul-2022	Scheduled Reporting Date	: **22-Jul-2022**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 14.4'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Unable to conduct Arsenic Speciation as no white opaque bottle received.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

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

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

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA075 Redox Potential	WATER - ED093F + EA006 + EA065 Dissolved Major Cations + SAR + Hardness	WATER - NT-01 & 02 Ca, Mg, Na, K, Cl, SO4, Alkalinity	WATER - NT-08A Total Nitrogen + NO2 + NO3 + NH3 + Total P +	WATER - W-07 TRH/BTEXN/PAH	WATER - W-12 OC/OP Pesticides	WATER - W-23 minus BTEX SVOC/VOC without BTEX
ES2225151-001	15-Jul-2022 00:00	QA2_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA005P pH (Auto Titrator)	WATER - EA010P Electrical Conductivity (Auto Titrator)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG049G LL-F Dissolved Trivalent Chromium by DA - Low Level	WATER - EP025 Dissolved Oxygen (DO)	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2225151-001	15-Jul-2022 00:00	QA2_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EG094-F Dissolved Metals by ORC - Ultra Trace in Fresh	WATER - EP080 BTEXN	WATER - W-18 TRH(C6 - C9)/BTEXN
ES2225151-001	15-Jul-2022 00:00	QA2_S	✓		
ES2225151-002	04-Jul-2022 00:00	Trip Spike		✓	
ES2225151-003	05-Jul-2022 00:00	Trip Blank			✓

Proactive Holding Time Report

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

Requested Deliverables

ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	epicenvironmental@esdat.com.au
INVOICES		
- A4 - AU Tax Invoice (INV)	Email	accounts@epicenvironmental.com.au
STEVE ROCKS		
- *AU Certificate of Analysis - NATA (COA)	Email	srocks@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	srocks@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	srocks@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	srocks@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	srocks@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	srocks@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	srocks@epicenvironmental.com.au

Chain of Custody Record

Project No:	SC210108.01	Lab:	ALS Sydney
Project/Site:	SMW WTP GWMP	Lab Quote No:	
Project Manager:	Steve Rocks	Lab Batch No:	
Sampled By:	SR, MP, JX	Turnaround time:	Standard (Results to Esdat)
Phone:	0414 776 988	Sample Disposal After:	
Page:	1 of 1		
Number of Eskies:	1		

CONTAINER TYPE & PRESERVATIVE / ANALYSIS REQUIRED

#	SAMPLE ID	Lab ID	DATE/TIME	MATRIX	Soil / Solid: 150-250ml Glass Jar	Soil / Solid: 200ml Plastic Jar	Soil / Solid: - Plastic bag	Water / Liquid: 2x40ml Amber Vial	Water / Liquid: 100-500ml Amber Bottle	Water / Liquid: 60ml Metals	Water / Liquid: 60ml Nutrients	Water / Liquid: 250-500ml Plastic (Unpreserved)	Water / Liquid: 60-250ml Plastic (PFAS)	Other	WQ Parameters: pH, EC, ORP, DO, TDS, Alkalinity, Hardness	Major Ions	Extended Metals suite - UltraTrace: Al, As III, As V, Cd, Cr III,	Nutrients (Trace)	TRH + BTEXN	PAH	OCP / OPP	Herbicides	VOC / SVOC	PFAS	BTEXN			HOLD
1	QA2_S		15/07/2022	W				2	4	2	1	1	1		X	X	X	X	X	X	X	X	X	X				
2	Trip Spike		15/07/2022	W																					X			
3	Trip Blank		15/07/2022	W																					X			
4																												
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19																												
20																												
				TOTALS				2	4	2		1	1															

Relinquished By:		Steve Rocks			
NAME	srocks (srocks@epicenvironmental.com.au)	SIGNATURE		DATE	15-Jul-22
Received By:					
NAME		SIGNATURE		DATE	

Custody Seals Intact	Y	N
Samples Received Chilled	Y	N
Method of Shipment		

NOTES: Please email results to: srocks@epicenvironmental.com.au

and dharris@epicenvironmental.com.au

Email ###

cc

cc epicenvironmental@esdat.com.au

cc labs@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2226073**	Page	: 1 of 15
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: SUITE 4.01 55 MILLER STREET PYRMONT 2009	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: SC210108.01 SMW WTP GWMP	Date Samples Received	: 22-Jul-2022 20:40
Order number	: ----	Date Analysis Commenced	: 23-Jul-2022
C-O-C number	: ----	Issue Date	: 01-Aug-2022 17:58
Sampler	: JX, MP		
Site	: SMW WTP GWMP		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

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*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- 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.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- Poor spike recovery for Hexavalent Chromium analysis due to matrix interferences. (confirmed by re-analysis).
- EG050G:LOR raised due to sample matrix.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	7.08	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	1720	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	1040	----	----	----	----
EA065: Total Hardness as CaCO3								
Total Hardness as CaCO3	----	1	mg/L	277	----	----	----	----
EA075: Redox Potential								
Redox Potential	----	0.1	mV	53.0	----	----	----	----
pH Redox	----	0.01	pH Unit	6.95	----	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	409	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	409	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	67	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	331	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	68	----	----	----	----
Magnesium	7439-95-4	1	mg/L	26	----	----	----	----
Sodium	7440-23-5	1	mg/L	256	----	----	----	----
Potassium	7440-09-7	1	mg/L	24	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Chromium	7440-47-3	0.001	mg/L	0.003	----	----	----	----
EG049G LL-F: Dissolved Trivalent Chromium - Low Level								
Trivalent Chromium	16065-83-1	0.001	mg/L	<0.010	----	----	----	----
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level								
Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.010	----	----	----	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	11	----	----	----	----
Cadmium	7440-43-9	0.05	µg/L	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**2.75**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	**0.26**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.26**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**3.0**	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	**3.3**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.16**	----	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	----	----	----	----
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**18.9**	----	----	----	----
ø Total Cations	----	0.01	meq/L	**17.3**	----	----	----	----
ø Ionic Balance	----	0.01	%	**4.48**	----	----	----	----
EP025: Oxygen - Dissolved (DO)								
Dissolved Oxygen	----	0.1	mg/L	**6.2**	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Styrene	100-42-5	5	µg/L	<5	----	----	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	----	----	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	----	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	----	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	----	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	----	----	----	----
n-Butylbenzene	104-51-8	5	µg/L	<5	----	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	----	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	----	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	----	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	----	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	----	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	----	----	----	----
Chloromethane	74-87-3	50	µg/L	<50	----	----	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	----	----	----	----
Bromomethane	74-83-9	50	µg/L	<50	----	----	----	----
Chloroethane	75-00-3	50	µg/L	<50	----	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	----	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	----	----	----	----
Iodomethane	74-88-4	5	µg/L	<5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	----	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	----	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	----	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	----	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	----	----	----	----
Trichloroethene	79-01-6	5	µg/L	<5	----	----	----	----
Dibromomethane	74-95-3	5	µg/L	<5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	----	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	----	----	----	----
Tetrachloroethene	127-18-4	5	µg/L	<5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	----	----	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	----	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	----	----	----	----
Bromobenzene	108-86-1	5	µg/L	<5	----	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	----	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	----	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	----	----	----	----
Bromodichloromethane	75-27-4	5	µg/L	<5	----	----	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	----	----	----	----
Bromoform	75-25-2	5	µg/L	<5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L	<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	2	µg/L	<2	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<2	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP075C: Phthalate Esters - Continued								
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	----	----	----	----
Methapyrilene	91-80-5	2	µg/L	<2	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L	<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	----	----	----	----
Isophorone	78-59-1	2	µg/L	<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L	<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L	<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	----	----	----	----
Pronamide	23950-58-5	2	µg/L	<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	----	----	----	----
EP075F: Haloethers								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP075F: Haloethers - Continued								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L	<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<2	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L	<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	<2	----	----	----	----
Carbazole	86-74-8	2	µg/L	<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	**18**	<1	----	----
Toluene	108-88-3	2	µg/L	<2	**17**	<2	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	**16**	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	**33**	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	**18**	<2	----	----
^ Total Xylenes	----	2	µg/L	<2	**51**	<2	----	----
^ Sum of BTEX	----	1	µg/L	<1	**102**	<1	----	----
Naphthalene	91-20-3	5	µg/L	<5	**19**	<5	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	----	----	----	----
2.4-DB	94-82-6	10	µg/L	<10	----	----	----	----
Dicamba	1918-00-9	10	µg/L	<10	----	----	----	----
Mecoprop	93-65-2	10	µg/L	<10	----	----	----	----
MCPA	94-74-6	10	µg/L	<10	----	----	----	----
2.4-DP	120-36-5	10	µg/L	<10	----	----	----	----
2.4-D	94-75-7	10	µg/L	<10	----	----	----	----
Triclopyr	55335-06-3	10	µg/L	<10	----	----	----	----
Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	----	----	----	----
2.4.5-T	93-76-5	10	µg/L	<10	----	----	----	----
MCPB	94-81-5	10	µg/L	<10	----	----	----	----
Picloram	1918-02-1	10	µg/L	<10	----	----	----	----
Clopyralid	1702-17-6	10	µg/L	<10	----	----	----	----
Fluroxypyr	69377-81-7	10	µg/L	<10	----	----	----	----
2.6-D	575-90-6	10	µg/L	<10	----	----	----	----
2.4.6-T	575-89-3	10	µg/L	<10	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.02**	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.01**	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	**0.2**	----	----	----	----
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	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**0.23**	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.03**	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.23**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	**69.5**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	**73.0**	----	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	5	%	**115**	----	----	----	----
Toluene-D8	2037-26-5	5	%	**114**	----	----	----	----
4-Bromofluorobenzene	460-00-4	5	%	**111**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	**23.5**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	**47.8**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	**69.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates								

Analytical Results

Sub-Matrix: WATER
(Matrix: WATER)

			Sample ID	QA3_S	Trip Spike	Trip Blank	----	----
			Sampling date / time	22-Jul-2022 00:00	19-Jul-2022 00:00	19-Jul-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2226073-001	ES2226073-002	ES2226073-003	--------	--------
				Result	Result	Result	----	----
EP075(SIM)T: PAH Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	1.0	%	57.6	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%	76.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	68.8	----	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	2	%	34.3	----	----	----	----
Phenol-d6	13127-88-3	2	%	26.7	----	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%	52.8	----	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%	51.5	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	2	%	52.6	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%	46.0	----	----	----	----
2-Fluorobiphenyl	321-60-8	2	%	45.9	----	----	----	----
Anthracene-d10	1719-06-8	2	%	61.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	2	%	55.7	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	110	101	102	----	----
Toluene-D8	2037-26-5	2	%	102	92.0	94.9	----	----
4-Bromofluorobenzene	460-00-4	2	%	100	91.5	92.2	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%	108	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	87.3	----	----	----	----
13C8-PFOA	----	0.02	%	92.7	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	64	140
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2226073**	Page	: 1 of 21
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: SUITE 4.01 55 MILLER STREET PYRMONT 2009	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: SC210108.01 SMW WTP GWMP	Date Samples Received	: 22-Jul-2022
Order number	: ----	Date Analysis Commenced	: 23-Jul-2022
C-O-C number	: ----	Issue Date	: 01-Aug-2022
Sampler	: JX, MP		
Site	: SMW WTP GWMP		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA005P: pH by PC Titrator (QC Lot: 4479246)									
ES2226054-001	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	6.18	6.26	1.3	0% - 20%
ES2226054-002	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	5.65	5.70	0.9	0% - 20%
EA010P: Conductivity by PC Titrator (QC Lot: 4479244)									
ES2226041-005	Anonymous	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	104	103	0.0	0% - 20%
ES2226054-002	Anonymous	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	2	85.4	No Limit
ES2225325-001	Anonymous	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	377	371	1.5	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 4487801)									
ES2226007-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	2120	2130	0.8	0% - 20%
ES2226677-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	2880	2890	0.3	0% - 20%
EA075: Redox Potential (QC Lot: 4477288)									
ES2225814-001	Anonymous	EA075: Redox Potential	----	0.1	mV	145	142	1.7	0% - 20%
		EA075: pH Redox	----	0.01	pH Unit	7.51	7.54	0.4	0% - 20%
ES2225951-001	Anonymous	EA075: Redox Potential	----	0.1	mV	108	108	0.3	0% - 20%
		EA075: pH Redox	----	0.01	pH Unit	7.61	7.62	0.1	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 4479247)									
ES2226054-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	0.0	No Limit
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 4477179)									
ES2226073-001	QA3_S	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	67	70	4.7	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 4477180)									
ES2226073-001	QA3_S	ED045G: Chloride	16887-00-6	1	mg/L	331	329	0.5	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 (%)
ED093F: Dissolved Major Cations (QC Lot: 4486896)									
ES2226143-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	215	216	0.5	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	363	363	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	1360	1370	0.2	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	38	38	0.0	0% - 20%
EW2203354-007	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	<1	1	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	1	<1	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	7	8	0.0	No Limit
		ED093F: Potassium	7440-09-7	1	mg/L	<1	<1	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 4486895)									
ES2226143-001	Anonymous	EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EW2203354-007	Anonymous	EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level (QC Lot: 4488155)									
ES2226073-001	QA3_S	EG050G: Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.010	<0.010	0.0	No Limit
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QC Lot: 4477559)									
ES2225679-003	Anonymous	EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.00005 mg/L	<0.05	0.0	No Limit
		EG094A-F: Aluminium	7429-90-5	5	µg/L	37	43	13.9	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 4487788)									
ES2226030-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	35.5	30.1	16.5	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 4477177)									
ES2226073-001	QA3_S	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 4487789)									
ES2226044-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.91	0.96	4.9	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 4484872)									
ES2226073-001	QA3_S	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	3.0	2.8	8.7	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 4484871)									
ES2226073-001	QA3_S	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.16	0.17	0.0	No Limit
EK071G: Reactive Phosphorus as P by discrete analyser (QC Lot: 4477178)									
ES2226073-001	QA3_S	EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4478352) - continued									
ES2225983-003	Anonymous	EP074: Styrene	100-42-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES2225983-003	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES2225983-003	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES2225983-003	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4478352) - continued									
ES2225821-001	Anonymous	EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES2225983-003	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4478352) - continued									
ES2225983-003	Anonymous	EP074: Pentachloroethane	76-01-7	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<0.05 mg/L	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES2225983-003	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4478352)									
ES2225821-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES2225983-003	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	0.022 mg/L	24	8.6	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4478351)									
ES2225821-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2225983-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	0.03 mg/L	40	38.6	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4478351)									
ES2225821-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2225983-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	0.03 mg/L	40	39.0	No Limit
EP080: BTEXN (QC Lot: 4478351)									
ES2225821-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP080: BTEXN (QC Lot: 4478351) - continued									
ES2225821-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2225983-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<0.001 mg/L	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<0.002 mg/L	2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<0.002 mg/L	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<0.005 mg/L	<5	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4484733)									
EB2221625-001	Anonymous	EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4481589)									
EP2209171-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.11	0.11	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.07	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
ES2225826-030	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4481589)									

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4481589) - continued									
EP2209171-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ES2225826-030	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4481589)									
EP2209171-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2225826-030	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4481589) - continued									
ES2225826-030	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4481589)									
EP2209171-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2225826-030	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4481589)									
EP2209171-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.21	0.21	0.0	0% - 20%
ES2225826-030	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA005P: pH by PC Titrator (QCLot: 4479246)								
EA005-P: pH Value	----	----	pH Unit	----	4 pH Unit	100	98.8	101
				----	7 pH Unit	100	99.2	101
EA010P: Conductivity by PC Titrator (QCLot: 4479244)								
EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	220 µS/cm	91.7	89.9	110
				<1	2100 µS/cm	99.6	90.2	111
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 4487801)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	96.3	87.0	109
				<10	293 mg/L	102	75.2	126
				<10	2460 mg/L	99.0	83.0	124
EA075: Redox Potential (QCLot: 4477288)								
EA075: Redox Potential	----	----	mV	----	234 mV	98.2	96.0	106
				----	300 mV	100	97.0	105
				----	86 mV	112	97.0	115
ED037P: Alkalinity by PC Titrator (QCLot: 4479247)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	86.9	81.0	111
				----	50 mg/L	108	80.0	120
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 4477179)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	95.6	82.0	122
				<1	500 mg/L	101	82.0	122
ED045G: Chloride by Discrete Analyser (QCLot: 4477180)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	50 mg/L	105	80.9	127
				<1	1000 mg/L	103	80.9	127
ED093F: Dissolved Major Cations (QCLot: 4486896)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	100	80.0	114
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	100	90.0	116
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	101	82.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	99.6	85.0	113
EG020F: Dissolved Metals by ICP-MS (QCLot: 4486895)								
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	101	85.0	111
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level (QCLot: 4488155)								
EG050G: Hexavalent Chromium	18540-29-9	0.001	mg/L	<0.001	0.05 mg/L	96.6	81.0	115
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 4477559)								
EG094A-F: Aluminium	7429-90-5	5	µg/L	<5	50 µg/L	97.4	89.0	117

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
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 4477559) - continued								
EG094A-F: Cadmium	7440-43-9	0.05	µg/L	<0.05	10 µg/L	95.6	87.0	111
EK055G: Ammonia as N by Discrete Analyser (QCLot: 4487788)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	102	90.0	114
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4477177)								
EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	0.5 mg/L	96.0	82.0	114
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4487789)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	97.6	91.0	113
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4484872)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	87.8	69.0	101
				<0.1	1 mg/L	89.7	70.0	118
				<0.1	5 mg/L	79.7	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4484871)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	4.42 mg/L	90.3	71.3	126
				<0.01	0.442 mg/L	94.9	71.3	126
				<0.01	1 mg/L	85.0	71.3	126
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 4477178)								
EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	0.5 mg/L	103	85.0	117
EP068A: Organochlorine Pesticides (OC) (QCLot: 4478015)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	76.2	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	87.6	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	80.6	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	76.4	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	83.5	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	75.8	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	77.3	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	83.3	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	81.4	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	81.3	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	78.1	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	83.4	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	84.4	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	74.4	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	91.6	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	79.5	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	97.5	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	87.4	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	86.9	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	92.2	63.8	110

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
EP068A: Organochlorine Pesticides (OC) (QCLot: 4478015) - continued								
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	85.2	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4478015)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	83.8	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	85.7	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	25.2	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	76.2	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	86.4	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	78.3	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	74.7	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	85.0	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	82.5	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	83.2	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	75.8	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	83.4	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	101	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	85.6	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	75.4	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	84.3	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	82.4	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	92.2	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	68.7	51.6	128
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4478352)								
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	92.4	73.0	119
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	99.7	76.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	97.1	69.0	119
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	96.5	74.0	116
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	99.8	73.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	96.8	74.0	116
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	99.0	72.0	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	98.9	71.0	119
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	98.2	65.0	123
EP074B: Oxygenated Compounds (QCLot: 4478352)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	93.3	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	115	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	98.9	66.0	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	110	65.0	137
EP074C: Sulfonated Compounds (QCLot: 4478352)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	94.3	72.8	127

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
EP074D: Fumigants (QCLot: 4478352)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	100	68.0	122
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	98.4	76.0	118
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	10 µg/L	93.4	62.0	120
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	10 µg/L	94.6	60.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	98.7	69.0	117
EP074E: Halogenated Aliphatic Compounds (QCLot: 4478352)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	88.1	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	95.0	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	96.8	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	95.4	56.0	140
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	98.9	61.0	139
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	100.0	69.0	131
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	99.8	70.0	124
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	97.8	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	97.0	74.0	118
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	98.9	74.0	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	100	77.0	119
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	98.6	67.0	119
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	98.0	73.0	119
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	94.2	62.0	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	102	73.0	123
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	100	76.0	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	101	73.0	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	103	72.0	126
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	104	71.0	129
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	108	72.0	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	97.4	66.0	114
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	96.3	60.0	120
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	92.7	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	104	70.0	124
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	112	74.0	126
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	87.2	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	99.4	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 4478352)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	102	79.0	117
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	98.2	76.0	116
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	98.8	73.0	119
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	101	73.0	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	108	67.0	123

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
EP074G: Trihalomethanes (QCLot: 4478352)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	101	72.0	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	95.2	64.0	118
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	95.7	65.0	115
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	92.7	73.5	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4478016)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	72.0	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	84.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	78.7	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	75.0	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	70.9	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	84.1	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	92.9	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	92.7	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	86.7	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	91.0	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	82.8	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	97.9	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	88.5	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	85.4	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	86.1	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	86.0	59.1	118
EP075A: Phenolic Compounds (QCLot: 4478017)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	40.6	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	73.8	52.0	88.0
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	65.8	50.0	94.0
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	66.8	45.0	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	86.0	48.0	98.0
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	61.2	50.0	94.0
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	86.6	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	83.1	61.5	108
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	91.3	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	92.8	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	102	58.0	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	20 µg/L	# 102	12.8	95.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4478017)								
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	79.4	59.0	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	73.3	60.6	106

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
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4478017) - continued								
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	110	59.7	110
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	90.6	50.0	108
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	97.8	60.1	110
EP075C: Phthalate Esters (QCLot: 4478017)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	93.0	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	96.1	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	100	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	100	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	µg/L	----	10 µg/L	119	60.0	132
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	102	62.1	115
EP075D: Nitrosamines (QCLot: 4478017)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	69.0	46.0	110
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	77.0	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	73.3	45.0	91.0
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	68.3	42.0	100
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	89.0	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	86.2	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	# 115	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	20 µg/L	91.2	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	# 14.6	23.3	125
EP075E: Nitroaromatics and Ketones (QCLot: 4478017)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	54.4	41.0	109
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	84.6	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	82.6	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	88.3	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	91.1	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	90.8	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	# 109	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	# 105	40.0	96.0
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	91.9	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	90.3	66.0	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	95.8	46.0	108
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	85.5	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	89.3	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	92.8	59.0	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	98.0	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	86.2	59.4	108

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
EP075E: Nitroaromatics and Ketones (QCLot: 4478017) - continued								
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	100	57.7	110
EP075F: Haloethers (QCLot: 4478017)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	88.9	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	85.4	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	88.9	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	90.8	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 4478017)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	73.4	41.0	97.0
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	72.3	40.0	96.0
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	78.5	41.0	95.0
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	75.9	46.0	88.0
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	74.0	46.0	96.0
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	73.8	34.0	96.0
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	76.2	37.4	100
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	81.6	23.5	107
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	82.3	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	90.8	65.7	110
EP075H: Anilines and Benzidines (QCLot: 4478017)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	66.3	50.0	104
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	79.7	42.0	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	92.5	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	88.1	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	85.7	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	89.6	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	96.3	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	104	60.3	119
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4478014)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	82.3	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	76.4	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	79.6	58.3	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4478351)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	91.0	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4478014)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	71.4	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	84.4	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	103	50.5	115
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4478351)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	91.5	75.0	127

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
EP080: BTEXN (QCLot: 4478351)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	94.4	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	91.8	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	91.4	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	89.6	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.4	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.0	70.0	120
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4484733)								
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	105	82.0	136
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	106	65.0	147
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	105	83.0	137
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	108	75.0	143
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	117	76.0	140
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	114	76.0	144
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	117	77.0	139
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	115	77.0	141
EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	100 µg/L	107	75.0	143
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	116	78.0	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	108	69.2	139
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	106	70.0	144
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	104	70.0	145
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	107	77.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4481589)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	84.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	88.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	84.6	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	88.0	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	85.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	84.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4481589)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.9	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	82.2	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	83.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.6	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	133

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4481589) - continued								
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	90.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4481589)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	99.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	93.5	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	99.1	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	82.5	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	85.3	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	88.6	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4481589)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	88.4	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	95.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	90.8	71.4	144

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 4477179)							
ES2226073-001	QA3_S	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 4477180)							
ES2226073-001	QA3_S	ED045G: Chloride	16887-00-6	50 mg/L	# Not Determined	70.0	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 4486895)							
ES2226111-001	Anonymous	EG020A-F: Chromium	7440-47-3	1 mg/L	96.2	70.0	130
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level (QCLot: 4488155)							
ES2226073-001	QA3_S	EG050G: Hexavalent Chromium	18540-29-9	0.05 mg/L	# 46.8	70.0	130

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
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS (QCLot: 4477559)							
ES2226073-001	QA3_S	EG094A-F: Cadmium	7440-43-9	12.5 µg/L	96.3	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 4487788)							
ES2226030-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	# Not Determined	70.0	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4477177)							
ES2226073-001	QA3_S	EK057G: Nitrite as N	14797-65-0	0.5 mg/L	110	70.0	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4487789)							
ES2226044-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	5 mg/L	114	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4484871)							
EW2203334-003	Anonymous	EK067G: Total Phosphorus as P	----	1 mg/L	92.7	70.0	130
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 4477178)							
ES2226073-001	QA3_S	EK071G: Reactive Phosphorus as P	14265-44-2	0.5 mg/L	92.9	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4478352)							
ES2225821-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	74.2	70.0	130
		EP074: Trichloroethene	79-01-6	25 µg/L	80.3	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4478352)							
ES2225821-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	87.7	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4478351)							
ES2225821-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	92.4	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4478351)							
ES2225821-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	90.4	70.0	130
EP080: BTEXN (QCLot: 4478351)							
ES2225821-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.4	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	93.4	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	94.7	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.6	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	97.6	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	95.8	70.0	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4484733)							
EB2221625-001	Anonymous	EP202-SL: Mecoprop	93-65-2	100 µg/L	103	75.0	143
		EP202-SL: MCPA	94-74-6	100 µg/L	108	76.0	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	106	77.0	139
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	115	77.0	141
		EP202-SL: 2.4.5-T	93-76-5	100 µg/L	106	78.0	140

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4484733) - continued							
EB2221625-001	Anonymous	EP202-SL: Picloram	1918-02-1	100 µg/L	111	70.0	144
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	106	70.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4481589)							
EP2209171-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	83.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	87.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	84.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	86.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	85.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	85.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4481589)							
EP2209171-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	80.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	81.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	84.2	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	88.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	85.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	88.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	89.8	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4481589)							
EP2209171-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	101	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	95.4	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	89.6	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	80.1	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	82.2	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	98.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	81.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4481589)							
EP2209171-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.2	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	84.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	92.8	67.0	138

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4481589) - continued							
EP2209171-001	Anonymous	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	80.8	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2226073**	Page	: 1 of 13
Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Telephone	: +61-2-8784 8555
Project	: SC210108.01 SMW WTP GWMP	Date Samples Received	: 22-Jul-2022
Site	: SMW WTP GWMP	Issue Date	: 01-Aug-2022
Sampler	: JX, MP	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **Laboratory Control 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

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

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
Laboratory Control Spike (LCS) Recoveries							
EP075A: Phenolic Compounds	QC-4478017-002	----	**Pentachlorophenol**	87-86-5	102 %	12.8-95.0%	**Recovery greater than upper control limit**
EP075D: Nitrosamines	QC-4478017-002	----	**N-Nitrosodibutylamine**	924-16-3	115 %	62.5-108%	**Recovery greater than upper control limit**
EP075D: Nitrosamines	QC-4478017-002	----	**Methapyrilene**	91-80-5	14.6 %	23.3-125%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	QC-4478017-002	----	**1-Naphthylamine**	134-32-7	109 %	46.8-102%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	QC-4478017-002	----	**4-Nitroquinoline-N-oxide**	56-57-5	105 %	40.0-96.0%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	ES2226073--001	QA3_S	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
ED045G: Chloride by Discrete Analyser	ES2226073--001	QA3_S	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG050G LL-F: Dissolved Hexavalent Chromium by Disc	ES2226073--001	QA3_S	**Hexavalent Chromium**	18540-29-9	46.8 %	70.0-130%	**Recovery less than lower data quality objective**
EK055G: Ammonia as N by Discrete Analyser	ES2226030--001	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA005P: pH by PC Titrator						
Clear Plastic Bottle - Natural						
QA3_S	----	----	----	25-Jul-2022	22-Jul-2022	**3**
EA075: Redox Potential						
Clear Plastic Bottle - Natural						
QA3_S	----	----	----	24-Jul-2022	22-Jul-2022	**2**
EK055G: Ammonia as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
QA3_S	----	----	----	29-Jul-2022	23-Jul-2022	**6**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser						
Clear Plastic Bottle - Natural						
QA3_S	----	----	----	29-Jul-2022	24-Jul-2022	**5**

Matrix: **WATER**

Method	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser						
Clear Plastic Bottle - Natural						
QA3_S	28-Jul-2022	23-Jul-2022	**5**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser						
Clear Plastic Bottle - Natural						
QA3_S	28-Jul-2022	24-Jul-2022	**4**	----	----	----
EP025: Oxygen - Dissolved (DO)						
Clear Plastic Bottle - Natural						
QA3_S	----	----	----	24-Jul-2022	22-Jul-2022	**2**

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)					
PAH/Phenols (GC/MS - SIM)	0	6	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	9	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	6	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	9	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	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA005P: pH by PC Titrator							
Clear Plastic Bottle - Natural (EA005-P)							
QA3_S	**22-Jul-2022**	**----**	----	----	**25-Jul-2022**	22-Jul-2022	×

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EA010P: Conductivity by PC Titrator							
Clear Plastic Bottle - Natural (EA010-P)							
QA3_S	**22-Jul-2022**	----	----	----	**25-Jul-2022**	19-Aug-2022	✓
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H)							
QA3_S	**22-Jul-2022**	----	----	----	**29-Jul-2022**	29-Jul-2022	✓
EA065: Total Hardness as CaCO3							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
QA3_S	**22-Jul-2022**	----	----	----	**29-Jul-2022**	19-Aug-2022	✓
EA075: Redox Potential							
Clear Plastic Bottle - Natural (EA075)							
QA3_S	**22-Jul-2022**	----	----	----	**24-Jul-2022**	22-Jul-2022	×
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
QA3_S	**22-Jul-2022**	----	----	----	**25-Jul-2022**	05-Aug-2022	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
QA3_S	**22-Jul-2022**	----	----	----	**23-Jul-2022**	19-Aug-2022	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
QA3_S	**22-Jul-2022**	----	----	----	**23-Jul-2022**	19-Aug-2022	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
QA3_S	**22-Jul-2022**	----	----	----	**29-Jul-2022**	19-Aug-2022	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QA3_S	**22-Jul-2022**	----	----	----	**29-Jul-2022**	18-Jan-2023	✓
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level							
Clear Plastic Bottle - NaOH Filtered (EG050G LL-F)							
QA3_S	**22-Jul-2022**	----	----	----	**29-Jul-2022**	19-Aug-2022	✓
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG094A-F)							
QA3_S	**22-Jul-2022**	----	----	----	**25-Jul-2022**	18-Jan-2023	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK055G)							
QA3_S	**22-Jul-2022**	----	----	----	**29-Jul-2022**	23-Jul-2022	×
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
QA3_S	**22-Jul-2022**	----	----	----	**23-Jul-2022**	24-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
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Natural (EK059G) QA3_S	**22-Jul-2022**	**----**	----	----	**29-Jul-2022**	24-Jul-2022	×
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Natural (EK061G) QA3_S	**22-Jul-2022**	**28-Jul-2022**	23-Jul-2022	×	**28-Jul-2022**	25-Aug-2022	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Natural (EK067G) QA3_S	**22-Jul-2022**	**28-Jul-2022**	24-Jul-2022	×	**28-Jul-2022**	25-Aug-2022	✓
EK071G: Reactive Phosphorus as P by discrete analyser							
Clear Plastic Bottle - Natural (EK071G) QA3_S	**22-Jul-2022**	**----**	----	----	**23-Jul-2022**	24-Jul-2022	✓
EP025: Oxygen - Dissolved (DO)							
Clear Plastic Bottle - Natural (EP025) QA3_S	**22-Jul-2022**	**----**	----	----	**24-Jul-2022**	22-Jul-2022	×
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074) QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074) QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074)							
QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QA3_S	**22-Jul-2022**	**25-Jul-2022**	29-Jul-2022	✓	**26-Jul-2022**	03-Sep-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QA3_S	**22-Jul-2022**	**26-Jul-2022**	05-Aug-2022	✓	**26-Jul-2022**	05-Aug-2022	✓
Clear glass VOC vial - HCl (EP080)							
Trip Spike	**19-Jul-2022**	**26-Jul-2022**	02-Aug-2022	✓	**26-Jul-2022**	02-Aug-2022	✓
Miscellaneous Glass Bottle - unpreserved (EP080)							
Trip Blank	**19-Jul-2022**	**26-Jul-2022**	26-Jul-2022	✓	**26-Jul-2022**	26-Jul-2022	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Amber Glass Bottle - Unpreserved (EP202-SL)							
QA3_S	**22-Jul-2022**	**----**	----	----	**28-Jul-2022**	29-Jul-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
QA3_S	**22-Jul-2022**	**27-Jul-2022**	18-Jan-2023	✓	**27-Jul-2022**	18-Jan-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
QA3_S	**22-Jul-2022**	**27-Jul-2022**	18-Jan-2023	✓	**27-Jul-2022**	18-Jan-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
QA3_S	**22-Jul-2022**	**27-Jul-2022**	18-Jan-2023	✓	**27-Jul-2022**	18-Jan-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
QA3_S	**22-Jul-2022**	**27-Jul-2022**	18-Jan-2023	✓	**27-Jul-2022**	18-Jan-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
QA3_S	**22-Jul-2022**	**27-Jul-2022**	18-Jan-2023	✓	**27-Jul-2022**	18-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)							
Alkalinity by Auto Titrator	ED037-P	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	3	27	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	1	**200.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	6	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
pH by Auto Titrator	EA005-P	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Redox Potential	EA075	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	9	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	2	9	**22.22**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	1	**200.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	3	27	**11.11**	**8.33**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH by Auto Titrator	EA005-P	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Redox Potential	EA075	3	13	**23.08**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	1	**200.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	3	20	**15.00**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	1	**300.00**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	3	2	**150.00**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	1	27	**3.70**	**1.67**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Chloride by Discrete Analyser	ED045G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	6	**0.00**	**5.00**	✘	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	**0.00**	**5.00**	✘	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	1	**0.00**	**5.00**	✘	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	0	1	**0.00**	**5.00**	✘	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	9	**0.00**	**5.00**	✘	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
pH by Auto Titrator	EA005-P	WATER	In house: Referenced to APHA 4500 H+ B. This procedure determines pH of water samples by automated ISE. This method is compliant with NEPM Schedule B(3)
Conductivity by Auto Titrator	EA010-P	WATER	In house: Referenced to APHA 2510 B. This procedure determines conductivity by automated ISE. This method is compliant with NEPM Schedule B(3)
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of `filterable` residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Redox Potential	EA075	WATER	In house: Ion selective electrode
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocyanate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Trivalent Chromium by DA - Low Level	EG049G LL-F	WATER	In house: Referenced to APHA 3500 Cr-B & 3120/3125. Trivalent Chromium is the difference between total dissolved and dissolved hexavalent chromium.
Dissolved Hexavalent Chromium by DA - Low Level	EG050G LL-F	WATER	In house: Referenced to APHA 3500 Cr-A & B. Samples are 0.45µm filtered prior to analysis. Hexavalent chromium is determined directly on water sample by Descrete Analyser as received by pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3).

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Dissolved Metals in Fresh Water -Suite A by ORC-ICPMS	EG094A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020 Samples are 0.45µm filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM Schedule B(3).
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 4500-Norg / 4500-NO3-. This method is compliant with NEPM Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 4500-P H, Jirka et al, Zhang et al. This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM Schedule B(3)
Reactive Phosphorus as P-By Discrete Analyser	EK071G	WATER	In house: Referenced to APHA 4500-P F Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Oxygen - Dissolved	EP025	WATER	In house: Referenced to APHA 4500-O G. Dissolved Oxygen Probe. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	WATER	In house: LCMS (Electrospray in negative mode). After adding surrogate and acetic acid, water samples are injected on a C18 column for LC/MS determination.
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
TKN/TP Digestion	EK061/EK067	WATER	In house: Referenced to APHA 4500 Norg - D; APHA 4500 P - H. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.
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

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2226073**

Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: SUITE 4.01 55 MILLER STREET PYRMONT 2009	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: srocks@epicenvironmental.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SC210108.01 SMW WTP GWMP	Page	: 1 of 3
Order number	: ----	Quote number	: EB2017EPIENV0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: SMW WTP GWMP		
Sampler	: JX, MP		

Dates

Date Samples Received	: 22-Jul-2022 20:40	Issue Date	: 23-Jul-2022
Client Requested Due Date	: 01-Aug-2022	Scheduled Reporting Date	: **01-Aug-2022**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 9.1'C
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **EG032 analysis has not been added as the correct bottle has not been received.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

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

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

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA075 Redox Potential	WATER - EP025 Dissolved Oxygen (DO)	WATER - NT-01D & 02 Major Cations & Anions (Ca, Mg, Na, K, Cl, SO4,	WATER - NT-08A Total Nitrogen + NO2 + NO3 + NH3 + Total P +	WATER - W-07 TRH/BTEXN/PAH	WATER - W-12 OC/OP Pesticides	WATER - W-23 minus BTEX SVOC/VOC without BTEX
ES2226073-001	22-Jul-2022 00:00	QA3_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA005P pH (Auto Titrator)	WATER - EA010P Electrical Conductivity (Auto Titrator)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG049G LL-F Dissolved Trivalent Chromium by DA - Low Level	WATER - EG094-F Dissolved Metals by ORC - Ultra Trace in Fresh	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2226073-001	22-Jul-2022 00:00	QA3_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP080 BTEXN
ES2226073-002	19-Jul-2022 00:00	Trip Spike	✓
ES2226073-003	19-Jul-2022 00:00	Trip Blank	✓

Proactive Holding Time Report

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

Requested Deliverables

ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	epicenvironmental@esdat.com.au
INVOICES		
- A4 - AU Tax Invoice (INV)	Email	accounts@epicenvironmental.com.au
STEVE ROCKS		
- *AU Certificate of Analysis - NATA (COA)	Email	srocks@epicenvironmental.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	srocks@epicenvironmental.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	srocks@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	srocks@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	srocks@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	srocks@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	srocks@epicenvironmental.com.au

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2226073**

Client	: **EPIC ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: STEVE ROCKS	Contact	: Customer Services ES
Address	: SUITE 4.01 55 MILLER STREET PYRMONT 2009	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: srocks@epicenvironmental.com.au	E-mail	: ALSEnviro.Sydney@ALSGlobal.com
Telephone	: ----	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: SC210108.01 SMW WTP GWMP	Page	: 1 of 3
Order number	: ----	Quote number	: EB2017EPIENV0004 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: SMW WTP GWMP		
Sampler	: JX, MP		

Dates

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Client Requested Due Date	: 01-Aug-2022	Scheduled Reporting Date	: **01-Aug-2022**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 9.1'C
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **EG032 analysis has not been added as the correct bottle has not been received.**
- **sample 2 & 3 had a sample date of 22/07 on the COC but the bottle had 19/07.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
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Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

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

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

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA075 Redox Potential	WATER - EP025 Dissolved Oxygen (DO)	WATER - NT-01D & 02 Major Cations & Anions (Ca, Mg, Na, K, Cl, SO4,	WATER - NT-08A Total Nitrogen + NO2 + NO3 + NH3 + Total P +	WATER - W-07 TRH/BTEXN/PAH	WATER - W-12 OC/OP Pesticides	WATER - W-23 minus BTEX SVOC/VOC without BTEX
ES2226073-001	22-Jul-2022 00:00	QA3_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EA005P pH (Auto Titrator)	WATER - EA010P Electrical Conductivity (Auto Titrator)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG049G LL-F Dissolved Trivalent Chromium by DA - Low Level	WATER - EG094-F Dissolved Metals by ORC - Ultra Trace in Fresh	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)
ES2226073-001	22-Jul-2022 00:00	QA3_S	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - EP080 BTEXN
ES2226073-002	19-Jul-2022 00:00	Trip Spike	✓
ES2226073-003	19-Jul-2022 00:00	Trip Blank	✓

Proactive Holding Time Report

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

Requested Deliverables

ESDAT REPORTS		
- EDI Format - ESDAT (ESDAT)	Email	epicenvironmental@esdat.com.au
INVOICES		
- A4 - AU Tax Invoice (INV)	Email	accounts@epicenvironmental.com.au
STEVE ROCKS		
- *AU Certificate of Analysis - NATA (COA)	Email	srocks@epicenvironmental.com.au
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- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	srocks@epicenvironmental.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	srocks@epicenvironmental.com.au
- Chain of Custody (CoC) (COC)	Email	srocks@epicenvironmental.com.au
- EDI Format - ESDAT (ESDAT)	Email	srocks@epicenvironmental.com.au
- EDI Format - XTab (XTAB)	Email	srocks@epicenvironmental.com.au

epic ENVIRONMENTAL

HT

Chain of Custody Record

Project No:	SC210108.01	Lab:	ALS Sydney
Project/Site:	SMW WTP GWMP	Lab Quote No:	
Project Manager:	Steve Rocks	Lab Batch No:	
Sampled By:	MP, JX	Turnaround time:	Standard (Results to Esdat)
Phone:	0414 776 988	Sample Disposal After:	
Page:	1 of 1		
Number of Eskies:	1		

CONTAINER TYPE & PRESERVATIVE

	SAMPLE ID	Lab ID	DATE/TIME	MATRIX	Soil / Solid 150-250ml Glass Jar	Soil / Solid 200ml Plastic Jar	Soil / Solid Plastic bag	Water / Liquid 2x 40ml Amber Vial	Water / Liquid 100-500ml Amber Bottle	Water / Liquid 60ml Metals	Water / Liquid 60ml Nutrients	Water / Liquid 250-500ml Plastic (Unpreserved)	Water / Liquid 60-250ml Plastic (PFAS)	Other
1	QA3_S		22/07/2022	W				2	1	3	2	1	2	
2	Trip Spike		22/07/2022	W										
3	Trip Blank		22/07/2022	W										
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
				TOTALS				2	1	3		1	2	

ANALYSIS REQUIRED

Sample	WQ Parameters: pH, EC, ORP, DO, TDS, Alkalinity, Hardness	Major Ions	Extended Metals suite - UltraTrace: Al, As III, As V, Cd, Cr III,	Nutrients (Trace)	TRH + BTEXN	PAH	OCP / OPP	Herbicides	VOC / SVOC	PFAS	BTEXN			HOLD
QA3_S	X	X	X	X	X	X	X	X	X	X				
Trip Spike											X			
Trip Blank											X			

Environmental Division
Sydney
Work Order Reference
ES2226073

Telephone : + 61-2-8784 8555

Relinquished By:	Murti Purohit		
NAME	srocks (srocks@epicenvironmental.com.au) SIGNATURE	DATE	22-Jul-22
Received By:	JUSTIN ALS		
NAME	SIGNATURE	DATE	22/7/22 8.40pm

	Y	N
Custody Seals Intact	Y	N
Samples Received Chilled	Y	N
Method of Shipment		

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

NOTES: Please email results to: srocks@epicenvironmental.com.au
and dharris@epicenvironmental.com.au

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane, 4000/ Suite 4.01, 55 Miller Street, Pyrmont, NSW, 2009

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200   fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 307739

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Patrick Carroll, j Xie
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	SC210108.03, SMW WTP GWMP
Number of Samples	9 Water
Date samples received	11/10/2022
Date completed instructions received	11/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	19/10/2022
Date of Issue	19/10/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Alexander Mitchell Maclean, Senior Chemist
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Loren Bardwell, Development Chemist
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	3
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	102	102	104	103	103
Surrogate toluene-d8	%	101	100	100	101	100
Surrogate 4-BFB	%	96	98	97	96	96

VOCs in water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022
Dichlorodifluoromethane	µg/L	<10	<10
Chloromethane	µg/L	<10	<10
Vinyl Chloride	µg/L	<10	<10
Bromomethane	µg/L	<10	<10
Chloroethane	µg/L	<10	<10
Trichlorofluoromethane	µg/L	<10	<10
1,1-Dichloroethene	µg/L	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1
1,1-dichloroethane	µg/L	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1
Bromochloromethane	µg/L	<1	<1
Chloroform	µg/L	<1	<1
2,2-dichloropropane	µg/L	<1	<1
1,2-dichloroethane	µg/L	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1
1,1-dichloropropene	µg/L	<1	<1
Cyclohexane	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Benzene	µg/L	<1	<1
Dibromomethane	µg/L	<1	<1
1,2-dichloropropane	µg/L	<1	<1
Trichloroethene	µg/L	<1	<1
Bromodichloromethane	µg/L	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1
Toluene	µg/L	<1	<1
1,3-dichloropropane	µg/L	<1	<1
Dibromochloromethane	µg/L	<1	<1
1,2-dibromoethane	µg/L	<1	<1
Tetrachloroethene	µg/L	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1
Chlorobenzene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1

VOCs in water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Bromoform	μg/L	<1	<1
m+p-xylene	μg/L	<2	<2
Styrene	μg/L	<1	<1
1,1,2,2-tetrachloroethane	μg/L	<1	<1
o-xylene	μg/L	<1	<1
1,2,3-trichloropropane	μg/L	<1	<1
Isopropylbenzene	μg/L	<1	<1
Bromobenzene	μg/L	<1	<1
n-propyl benzene	μg/L	<1	<1
2-chlorotoluene	μg/L	<1	<1
4-chlorotoluene	μg/L	<1	<1
1,3,5-trimethyl benzene	μg/L	<1	<1
Tert-butyl benzene	μg/L	<1	<1
1,2,4-trimethyl benzene	μg/L	<1	<1
1,3-dichlorobenzene	μg/L	<1	<1
Sec-butyl benzene	μg/L	<1	<1
1,4-dichlorobenzene	μg/L	<1	<1
4-isopropyl toluene	μg/L	<1	<1
1,2-dichlorobenzene	μg/L	<1	<1
n-butyl benzene	μg/L	<1	<1
1,2-dibromo-3-chloropropane	μg/L	<1	<1
1,2,4-trichlorobenzene	μg/L	<1	<1
Hexachlorobutadiene	μg/L	<1	<1
1,2,3-trichlorobenzene	μg/L	<1	<1
Surrogate Dibromofluoromethane	%	103	103
Surrogate toluene-d8	%	100	101
Surrogate 4-BFB	%	96	96

SVOC's in water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Phenol	µg/L	<10	<10	<10	<10	<10
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	53	69	60	59	21
Surrogate Phenol-d_6	%	43	51	51	51	29
Surrogate Nitrobenzene-d_5	%	88	95	92	88	87
Surrogate 2-fluorobiphenyl	%	74	83	77	72	74
Surrogate 2,4,6-Tribromophenol	%	82	86	85	79	39
Surrogate *p*-Terphenyl-d_{14}	%	88	96	90	86	89

SVOC's in water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022
Phenol	µg/L	<10	<10
Bis (2-chloroethyl) ether	µg/L	<5	<5
2-Chlorophenol	µg/L	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2
2-Methylphenol	µg/L	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5
3/4-Methylphenol	µg/L	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5
Hexachloroethane	µg/L	<2	<2
Nitrobenzene	µg/L	<5	<5
Isophorone	µg/L	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2
2-Nitrophenol	µg/L	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2
Naphthalene	µg/L	<2	<2
4-Chloroaniline	µg/L	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10
Hexachlorobutadiene	µg/L	<2	<2
2-Methylnaphthalene	µg/L	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2
2-Chloronaphthalene	µg/L	<2	<2
2-Nitroaniline	µg/L	<5	<5
Dimethyl phthalate	µg/L	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5
Acenaphthylene	µg/L	<2	<2
3-Nitroaniline	µg/L	<5	<5
Acenaphthene	µg/L	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20

SVOC's in water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
4-Nitrophenol	µg/L	<20	<20
Dibenzofuran	µg/L	<5	<5
Diethylphthalate	µg/L	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5
4-Nitroaniline	µg/L	<5	<5
Fluorene	µg/L	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20
Azobenzene	µg/L	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5
Hexachlorobenzene	µg/L	<2	<2
Pentachlorophenol	µg/L	<10	<10
Phenanthrene	µg/L	<2	<2
Anthracene	µg/L	<2	<2
Carbazole	µg/L	<5	<5
Di-n-butylphthalate	µg/L	<10	<10
Fluoranthene	µg/L	<2	<2
Pyrene	µg/L	<2	<2
Butylbenzylphthalate	µg/L	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50
Benzo(a)anthracene	µg/L	<2	<2
Chrysene	µg/L	<2	<2
Di-n-octylphthalate	µg/L	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4
Benzo(a)pyrene	µg/L	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5
Aniline	µg/L	<5	<5
Pentachloroethane	µg/L	<2	<2
Benzyl alcohol	µg/L	<5	<5
Acetophenone	µg/L	<5	<5
N-nitrosomorpholine	µg/L	<5	<5
N-nitrosopiperidine	µg/L	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2
Hexachloropropene-1	µg/L	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5

SVOC's in water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Safrole	µg/L	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5
Pentachlorobenzene	µg/L	<2	<2
1-Naphthylamine	µg/L	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2
2-Naphthylamine	µg/L	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5
Diphenylamine	µg/L	<5	<5
Phenacetin	µg/L	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5
Dinoseb	µg/L	<10	<10
Methapyrilene	µg/L	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2
3-Methylcholanthrene	µg/L	<2	<2
a-BHC	µg/L	<2	<2
b-BHC	µg/L	<2	<2
g-BHC	µg/L	<2	<2
d-BHC	µg/L	<2	<2
Heptachlor	µg/L	<2	<2
Aldrin	µg/L	<2	<2
Heptachlor Epoxide	µg/L	<2	<2
g-Chlordane	µg/L	<2	<2
a-Chlordane	µg/L	<2	<2
Endosulfan I	µg/L	<2	<2
p,p'-DDE	µg/L	<2	<2
Dieldrin	µg/L	<2	<2
Endrin	µg/L	<2	<2
p,p'-DDD	µg/L	<2	<2
Endosulfan II	µg/L	<2	<2
Endrin Aldehyde	µg/L	<2	<2
p,p'-DDT	µg/L	<2	<2
Endosulfan Sulphate	µg/L	<2	<2
Endrin Ketone	µg/L	<2	<2

SVOC's in water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Methoxychlor	µg/L	<2	<2
Dichlorvos	µg/L	<2	<2
Mevinphos	µg/L	<2	<2
Phorate	µg/L	<2	<2
Dimethoate	µg/L	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2
Disulfoton	µg/L	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2
Parathion-methyl	µg/L	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2
Fenitrothion	µg/L	<2	<2
Malathion (Maldison)	µg/L	<2	<2
Chloropyriphos	µg/L	<2	<2
Fenthion	µg/L	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2
Bromophos Ethyl	µg/L	<2	<2
Methidathion	µg/L	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2
Ethion	µg/L	<2	<2
Phosalone	µg/L	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2
Surrogate 2-fluorophenol	%	45	55
Surrogate Phenol-d_6	%	38	46
Surrogate Nitrobenzene-d_5	%	74	97
Surrogate 2-fluorobiphenyl	%	67	80
Surrogate 2,4,6-Tribromophenol	%	67	80
Surrogate *p*-Terphenyl-d_{14}	%	73	94

vTRH(C6-C10)/BTEXN in Water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	102	102	104	103	103
Surrogate toluene-d8	%	101	100	100	101	100
Surrogate 4-BFB	%	96	98	97	96	96

vTRH(C6-C10)/BTEXN in Water					
Our Reference		307739-6	307739-7	307739-8	307739-9
Your Reference	UNITS	SMW_ENV149	CZ1-BH13	TS1	TB1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022	17/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	18/10/2022
TRH C_6 - C_9	µg/L	<10	<10	[NA]	<100
TRH C_6 - C_{10}	µg/L	<10	<10	[NA]	<100
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	[NA]	<100
Benzene	µg/L	<1	<1	98%	<10
Toluene	µg/L	<1	<1	93%	<10
Ethylbenzene	µg/L	<1	<1	93%	<10
m+p-xylene	µg/L	<2	<2	98%	<20
o-xylene	µg/L	<1	<1	105%	<10
Naphthalene	µg/L	<1	<1	[NA]	<10
Surrogate Dibromofluoromethane	%	103	103	101	103
Surrogate toluene-d8	%	100	101	100	102
Surrogate 4-BFB	%	96	96	98	101

svTRH (C10-C40) in Water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
TRH C_{10} - C_{14}	µg/L	89	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	410	<100	160	140	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	500	<50	160	140	<50
TRH >C_{10} - C_{16}	µg/L	120	<50	<50	<50	100
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	120	<50	<50	<50	100
TRH >C_{16} - C_{34}	µg/L	430	<100	180	140	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	550	<50	180	140	100
Surrogate o-Terphenyl	%	114	105	93	91	88

svTRH (C10-C40) in Water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50
Surrogate o-Terphenyl	%	78	93

PAHs in Water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	96	90	86	89

PAHs in Water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022
Naphthalene	µg/L	<1	<1
Acenaphthylene	µg/L	<1	<1
Acenaphthene	µg/L	<1	<1
Fluorene	µg/L	<1	<1
Phenanthrene	µg/L	<1	<1
Anthracene	µg/L	<1	<1
Fluoranthene	µg/L	<1	<1
Pyrene	µg/L	<1	<1
Benzo(a)anthracene	µg/L	<1	<1
Chrysene	µg/L	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2
Benzo(a)pyrene	µg/L	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	73	94

Organochlorine Pesticides in Water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	79	89	83	79	80

Organochlorine Pesticides in Water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022
alpha-BHC	µg/L	<0.2	<0.2
HCB	µg/L	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2
Surrogate TCMX	%	68	85

OP Pesticides in Water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	79	89	83	79	80

OP Pesticides in Water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022
Dichlorvos	µg/L	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2
Surrogate TCMX	%	68	85

Ion Balance						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-6
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	SMW_ENV149
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Date analysed	-	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Calcium - Dissolved	mg/L	53	190	770	790	260
Potassium - Dissolved	mg/L	8.8	17	93	93	14
Sodium - Dissolved	mg/L	1,200	4,100	8,900	9,300	4,300
Magnesium - Dissolved	mg/L	160	720	1,500	1,600	710
Hardness	mgCaCO 3 /L	800	3,400	8,100	8,400	3,600
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	81	72	530	520	320
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	81	72	530	520	320
Sulphate, SO4	mg/L	590	1,300	1,300	1,300	540
Chloride, Cl	mg/L	2,400	7,800	17,000	16,000	8,200
Ionic Balance	%	-10	0	4.0	9.0	2.0

Ion Balance		
Our Reference		307739-7
Your Reference	UNITS	CZ1-BH13
Date Sampled		10/10/2022
Type of sample		Water
Date prepared	-	11/10/2022
Date analysed	-	11/10/2022
Calcium - Dissolved	mg/L	610
Potassium - Dissolved	mg/L	91
Sodium - Dissolved	mg/L	6,500
Magnesium - Dissolved	mg/L	670
Hardness	mgCaCO 3 /L	4,300
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	730
Carbonate Alkalinity as $CaCO_3$	mg/L	<5
Total Alkalinity as $CaCO_3$	mg/L	730
Sulphate, SO4	mg/L	540
Chloride, Cl	mg/L	9,000
Ionic Balance	%	14

All metals in water-dissolved						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Aluminium-Dissolved	µg/L	<10	<10	<10	<10	<10
Arsenic-Dissolved	µg/L	<1	3	10	11	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	2	410	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Manganese-Dissolved	µg/L	110	250	2,100	2,300	<5
Nickel-Dissolved	µg/L	8	23	2	2	<1
Zinc-Dissolved	µg/L	24	44	1	<1	<1

All metals in water-dissolved			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date prepared	-	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022
Aluminium-Dissolved	µg/L	<10	<10
Arsenic-Dissolved	µg/L	5	4
Cadmium-Dissolved	µg/L	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1
Copper-Dissolved	µg/L	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1
Manganese-Dissolved	µg/L	330	370
Nickel-Dissolved	µg/L	10	5
Zinc-Dissolved	µg/L	110	18

Miscellaneous Inorganics						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Date analysed	-	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
pH	pH Units	5.5	5.6	6.5	6.5	[NA]
Electrical Conductivity	µS/cm	8,700	24,000	46,000	44,000	[NA]
Oxidation Reduction Potential*	mV	11	117	-8	-14	[NA]
Dissolved Oxygen*	mg/L	7.4	8.5	6.6	7.7	[NA]
Total Dissolved Solids (grav)	mg/L	5,200	18,000	38,000	42,000	[NA]
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
TKN in water	mg/L	0.5	1.5	2.1	2.7	[NA]
Total Nitrogen in water	mg/L	0.5	1.5	2.2	2.7	[NA]
Nitrate as N in water	mg/L	<0.005	<0.05	<0.02	<0.005	[NA]
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	<0.005	[NA]
Ammonia as N in water	mg/L	0.20	1.4	1.9	2.4	[NA]
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	<0.005	[NA]

Miscellaneous Inorganics			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date prepared	-	11/10/2022	11/10/2022
Date analysed	-	11/10/2022	11/10/2022
pH	pH Units	6.4	6.5
Electrical Conductivity	µS/cm	25,000	34,000
Oxidation Reduction Potential*	mV	116	18
Dissolved Oxygen*	mg/L	7.5	8.7
Total Dissolved Solids (grav)	mg/L	21,000	26,000
Trivalent Chromium	mg/L	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001
TKN in water	mg/L	0.8	2.0
Total Nitrogen in water	mg/L	0.9	2.0
Nitrate as N in water	mg/L	<0.01	<0.005
Nitrite as N in water	mg/L	<0.005	<0.005
Ammonia as N in water	mg/L	0.71	1.9
Phosphate as P in water	mg/L	<0.005	<0.005

Metals in Waters - Acid extractable						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-6
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	SMW_ENV149
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Date analysed	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Metals in Waters - Acid extractable		
Our Reference		307739-7
Your Reference	UNITS	CZ1-BH13
Date Sampled		10/10/2022
Type of sample		Water
Date prepared	-	12/10/2022
Date analysed	-	12/10/2022
Phosphorus - Total	mg/L	0.2

Acid Herbicides in Water						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	81	78	78	75	74

Acid Herbicides in Water			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date extracted	-	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022
Clopyralid	µg/L	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5
Dinoseb	µg/L	<1	<1
2,4-DB	µg/L	<0.5	<0.5
Ioxynil	µg/L	<1	<1
Picloram	µg/L	<1	<1
Acifluorfen	µg/L	<2	<2
2,4,6-T	µg/L	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1
Chloramben	µg/L	<1	<1
Bentazon	µg/L	<1	<1
Surrogate 2.4- DCPA	%	73	72

PFAS in Waters Extended						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Date analysed	-	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Perfluorobutanesulfonic acid	µg/L	0.08	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	0.06	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.25	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	0.02	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.13	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	0.03	<0.04	<0.04	<0.04	<0.02
Perfluoropentanoic acid	µg/L	0.04	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.23	<0.01	<0.01	0.02	<0.01
Perfluoroheptanoic acid	µg/L	0.05	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.06	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.02	<0.02	<0.01
6:2 FTS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	104	105	103	107	105
Surrogate $^{13}C_2$ *PFOA*	%	102	99	101	102	101
Extracted ISTD $^{13}C_3$ *PFBS*	%	98	94	98	93	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	127	129	134	131	129
Extracted ISTD $^{13}C_4$ *PFOS*	%	116	117	121	119	116
Extracted ISTD $^{13}C_4$ *PFBA*	%	56	40	25	26	100

PFAS in Waters Extended						
Our Reference		307739-1	307739-2	307739-3	307739-4	307739-5
Your Reference	UNITS	SMW_ENV083	SMW_ENV042	SMW_ENV234	QC01	R1
Date Sampled		10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	86	65	50	50	97
Extracted ISTD $^{13}C_2$ *PFHxA*	%	104	90	75	72	107
Extracted ISTD $^{13}C_4$ *PFHpA*	%	123	115	99	101	130
Extracted ISTD $^{13}C_4$ *PFOA*	%	111	106	93	95	119
Extracted ISTD $^{13}C_5$ *PFNA*	%	137	132	121	120	142
Extracted ISTD $^{13}C_2$ *PFDA*	%	122	108	87	94	127
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	135	116	123	91	132
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	143	132	132	117	146
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	73	66	63	58	81
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	77	51	41	45	104
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	87	73	60	66	130
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	142	126	114	100	185
Extracted ISTD $^{13}C_8$ *FOSA*	%	133	129	124	121	139
Extracted ISTD d_3 *N MeFOSA*	%	111	106	100	96	115
Extracted ISTD d_5 *N EtFOSA*	%	129	133	138	139	132
Extracted ISTD d_7 *N MeFOSE*	%	115	108	115	119	119
Extracted ISTD d_9 *N EtFOSE*	%	101	94	89	91	104
Extracted ISTD d_3 *N MeFOSAA*	%	103	75	52	49	125
Extracted ISTD d_5 *N EtFOSAA*	%	111	84	66	62	123
Total Positive PFHxS & PFOS	µg/L	0.38	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.19	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.96	<0.01	<0.01	0.02	<0.01

PFAS in Waters Extended			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Date prepared	-	11/10/2022	11/10/2022
Date analysed	-	11/10/2022	11/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.04	<0.04
Perfluoropentanoic acid	µg/L	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5
4:2 FTS	µg/L	<0.02	<0.02
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	108	107
Surrogate $^{13}C_2$ *PFOA*	%	101	104
Extracted ISTD $^{13}C_3$ *PFBS*	%	101	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	137	132
Extracted ISTD $^{13}C_4$ *PFOS*	%	116	120
Extracted ISTD $^{13}C_4$ *PFBA*	%	40	47

PFAS in Waters Extended			
Our Reference		307739-6	307739-7
Your Reference	UNITS	SMW_ENV149	CZ1-BH13
Date Sampled		10/10/2022	10/10/2022
Type of sample		Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	65	68
Extracted ISTD $^{13}C_2$ *PFHxA*	%	86	90
Extracted ISTD $^{13}C_4$ *PFHpA*	%	114	118
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	102
Extracted ISTD $^{13}C_5$ *PFNA*	%	127	131
Extracted ISTD $^{13}C_2$ *PFDA*	%	100	107
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	110	118
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	124	117
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	67	65
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	50	49
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	65	71
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	133	131
Extracted ISTD $^{13}C_8$ *FOSA*	%	128	131
Extracted ISTD d_3 *N MeFOSA*	%	106	101
Extracted ISTD d_5 *N EtFOSA*	%	138	134
Extracted ISTD d_7 *N MeFOSE*	%	115	116
Extracted ISTD d_9 *N EtFOSE*	%	96	97
Extracted ISTD d_3 *N MeFOSAA*	%	69	66
Extracted ISTD d_5 *N EtFOSAA*	%	73	73
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W9	[NT]
Date extracted	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W9	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate toluene-d8	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Phenol	µg/L	2	Org-022/025	<2	1	<10	<10	0	39	49
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	81	87
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	71	65
2-Methylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	70	82
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	93
4-Chloroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	100	104
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	113	115
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	63	71
Dibenzofuran	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
4-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	114	118
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	97	105
Phenanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	132	133
Anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	127	131
Pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	135	140
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	1	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	1	<2	<2	0	117	121
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	128	128
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	102	107
Hexachloropropene-1	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
2-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	96	104
b-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	103	106
g-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	87	97
Aldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	113	118
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	112
g-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	1	<2	<2	0	111	117
Dieldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	120
Endrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	90	94
p,p'-DDD	µg/L	2	Org-022/025	<2	1	<2	<2	0	129	137
Endosulfan II	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	1	<2	<2	0	96	106
Endrin Ketone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	1	<2	<2	0	105	109
Mevinphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
Ronnel (fenchlorphos)	μg/L	2	Org-022/025	<2	1	<2	<2	0	91	95
Fenitrothion	μg/L	2	Org-022/025	<2	1	<2	<2	0	97	107
Malathion (Maldison)	μg/L	2	Org-022/025	<2	1	<2	<2	0	112	118
Chloropyriphos	μg/L	2	Org-022/025	<2	1	<2	<2	0	112	118
Fenthion	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	μg/L	2	Org-022/025	<2	1	<2	<2	0	97	111
Bromophos Ethyl	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methidathion	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethion	μg/L	2	Org-022/025	<2	1	<2	<2	0	109	115
Phosalone	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	μg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	43	1	53	52	2	51	54
Surrogate Phenol-d_6	%		Org-022/025	30	1	43	39	10	36	42
Surrogate Nitrobenzene-d_5	%		Org-022/025	87	1	88	91	3	91	87
Surrogate 2-fluorobiphenyl	%		Org-022/025	81	1	74	78	5	81	74
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	81	1	82	85	4	82	82
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	92	1	88	93	6	98	91

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W9	[NT]
Date extracted	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	104	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	104	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	107	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate toluene-d8	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	89	53	51	90	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	410	320	25	108	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	120	76	45	90	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	430	350	21	108	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
Surrogate o-Terphenyl	%		Org-020	95	1	114	98	15	84	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	95	93
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	113	115
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	114	118
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	122	123
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	127	122
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	125	120
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	117	121
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	128	128
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	92	1	88	93	6	98	91

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	98	104
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	103	106
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	87	97
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	113	118
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	112	112
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	111	117
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	112	120
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	90	94
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	129	137
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	96	106
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	88	1	79	84	6	91	84

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	307739-2
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	105	109
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	91	95
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	97	107
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	112	118
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	112	118
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	97	111
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	109	115
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	88	1	79	84	6	91	84

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			11/10/2022	1	11/10/2022	11/10/2022		11/10/2022	[NT]
Date analysed	-			11/10/2022	1	11/10/2022	11/10/2022		11/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	53	53	0	104	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	8.8	9.2	4	98	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	1200	1200	0	97	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	160	160	0	108	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	800	800	0	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	81	77	5	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	81	77	5	100	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	590	570	3	93	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	2400	2500	4	101	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	-10	-10	0	[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	10	0	114	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	101	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	102	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	103	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	2	0	101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	88	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	105	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	110	120	9	100	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	8	8	0	101	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	24	26	8	100	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307739-2
Date prepared	-			11/10/2022	1	11/10/2022	11/10/2022		11/10/2022	11/10/2022
Date analysed	-			11/10/2022	1	11/10/2022	11/10/2022		11/10/2022	11/10/2022
pH	pH Units		Inorg-001	[NT]	1	5.5	5.5	0	101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	8700	8700	0	103	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	11	[NT]		94	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	1	7.4	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	5200	5500	6	106	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	94	104
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.5	0.5	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.5	0.5	0	105	77
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	99	95
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	99	85
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.20	0.20	0	100	95
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	109	102

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307739-2
Date prepared	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	12/10/2022
Date analysed	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	12/10/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	109	100

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307739-2
Date extracted	-			13/10/2022	3	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			13/10/2022	3	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Clopyralid	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	75	82
MCPP	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	72	81
MCPA	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	75	82
Dichlorprop	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	76	84
Bromoxynil	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	73	80
MCPB	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	3	<1	<1	0	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	3	<1	<1	0	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	3	<1	<1	0	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	3	<2	<2	0	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	3	<0.5	<0.5	0	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	3	<1	<1	0	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	3	<1	<1	0	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	3	<1	<1	0	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	77	3	78	79	1	70	76

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307739-2
Date prepared	-			11/10/2022	1	11/10/2022	11/10/2022		11/10/2022	11/10/2022
Date analysed	-			11/10/2022	1	11/10/2022	11/10/2022		11/10/2022	11/10/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.08	0.07	13	95	98
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.06	0.06	0	88	82
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.25	0.24	4	101	98
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	0.02	0.01	67	96	92
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	0.13	0.13	0	103	102
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	80	107
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	0.03	0.04	29	110	114
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	0.04	0.03	29	101	104
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.23	0.24	4	103	102
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	0.05	0.05	0	94	93
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.06	0.06	0	103	106
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	81	70
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	116	137
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	109
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	106	111
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	79	78
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	122	133
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	106	109
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	0.01	<0.01	0	96	100
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	86	78
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	118	88
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	91	89
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	103	98
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	103	100
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	91	82
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	118	118
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	107
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	103	96
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	109	1	104	104	0	103	108
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	102	1	102	103	1	98	100

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307739-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	104	1	98	100	2	100	96
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	107	1	127	131	3	102	131
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	102	1	116	118	2	104	118
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	101	1	56	56	0	98	39
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	101	1	86	85	1	100	62
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	101	1	104	102	2	102	87
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	116	1	123	124	1	108	111
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	110	1	111	112	1	107	100
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	111	1	137	139	1	108	128
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	111	1	122	116	5	110	102
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	113	1	135	126	7	106	115
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	110	1	143	145	1	113	126
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	88	1	73	75	3	79	69
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	109	1	77	80	4	104	48
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	116	1	87	86	1	104	65
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	124	1	142	146	3	112	131
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	113	1	133	133	0	107	124
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	110	1	111	113	2	104	104
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	113	1	129	135	5	104	128
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	113	1	115	117	2	104	116

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307739-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	107	1	101	101	0	96	100
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	108	1	103	102	1	99	71
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	111	1	111	107	4	108	81

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle.
Note: there is a possibility some elements may be underestimated.

Nitrate as N - PQL has been raised due to matrix interferences from analytes (other than those being tested) in the sample/s. Samples were diluted and reanalysed however same results were achieved.

TRH Water(C10-C40) NEPM - The positive result in the rinsate sample is due to a single peak with no hydrocarbon profile that is consistent with the use of plastic containers.

vTRH & BTEXN in Water NEPM - The PQL has been raised due to the limited amount of sample 307739-9 available for testing.

Dissolved Metals: no filtered, preserved sample was received for #5, therefore the unpreserved sample was filtered through 0.45μm filter at the lab.
Note: there is a possibility some elements may be underestimated.

SVOC's in water - The PQLs for 307739-1-7 have been raised due to the low spike recoveries. This may reflect other samples where similar in matrix and similar analytical interferences occur.

Herbicides anallysed by MPL Laboratories. Report No. PDJ0634

DO
Samples were out of the recommended holding time for this analysis.

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INTERIM REPORT 307846

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Patrick Carroll
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.03, SMW WTP GWMP**
Number of Samples	7 Water
Date samples received	12/10/2022
Date completed instructions received	12/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	19/10/2022
Interim Report Date	19/10/2022

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VOCs in water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022	15/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022	15/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	3	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	104	104	104	104	103
Surrogate toluene-d8	%	100	100	100	100	100
Surrogate 4-BFB	%	98	98	98	97	97

SVOC's in water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Phenol	µg/L	<10	<10	<10	<10	<10
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	50	51	48	52	58
Surrogate Phenol-d_6	%	35	42	35	38	49
Surrogate Nitrobenzene-d_5	%	92	89	85	88	91
Surrogate 2-fluorobiphenyl	%	89	86	83	85	88
Surrogate 2,4,6-Tribromophenol	%	80	78	73	80	77
Surrogate *p*-Terphenyl-d_{14}	%	93	89	89	87	92

vTRH(C6-C10)/BTEXN in Water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022	15/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022	15/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	104	104	104	104	103
Surrogate toluene-d8	%	100	100	100	100	100
Surrogate 4-BFB	%	98	98	98	97	97

vTRH(C6-C10)/BTEXN in Water			
Our Reference		307846-6	307846-7
Your Reference	UNITS	TS2	TB2
Date Sampled		11/10/2022	11/10/2022
Type of sample		Water	Water
Date extracted	-	18/10/2022	18/10/2022
Date analysed	-	19/10/2022	19/10/2022
Benzene	µg/L	106%	<1
Toluene	µg/L	109%	<1
Ethylbenzene	µg/L	114%	<1
m+p-xylene	µg/L	120%	<2
o-xylene	µg/L	120%	<1
Naphthalene	µg/L	[NT]	<1
Surrogate Dibromofluoromethane	%	103	104
Surrogate toluene-d8	%	101	101
Surrogate 4-BFB	%	102	100

svTRH (C10-C40) in Water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022	15/10/2022	15/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	100	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	110	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	110	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	110	<50
Surrogate o-Terphenyl	%	94	104	88	95	91

PAHs in Water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	89	89	87	92

Organochlorine Pesticides in Water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH2 5	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	96	90	88	94	95

OP Pesticides in Water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	96	90	88	94	95

Ion Balance					
Our Reference		307846-1	307846-2	307846-3	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Date analysed	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Calcium - Dissolved	mg/L	530	210	36	200
Potassium - Dissolved	mg/L	7.0	110	24	12
Sodium - Dissolved	mg/L	170	3,000	1,300	4,900
Magnesium - Dissolved	mg/L	110	470	93	930
Hardness	$mgCaCO_3/L$	1,800	2,400	470	4,300
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	540	280	200	140
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	540	280	200	140
Sulphate, SO4	mg/L	1,300	1,500	510	1,200
Chloride, Cl	mg/L	240	6,500	1,800	9,200
Ionic Balance	%	-2.0	-9.0	2.0	2.0

All metals in water-dissolved						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Aluminium-Dissolved	µg/L	<10	<10	<10	<10	<10
Arsenic-Dissolved	µg/L	<1	3	11	<1	1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	<1	1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Manganese-Dissolved	µg/L	550	320	180	<5	660
Nickel-Dissolved	µg/L	7	23	8	<1	23
Zinc-Dissolved	µg/L	13	25	43	<1	46

Miscellaneous Inorganics						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Date analysed	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
pH	pH Units	6.8	6.3	6.2	[NA]	5.9
Electrical Conductivity	µS/cm	3,400	22,000	7,100	[NA]	28,000
Oxidation Reduction Potential*	mV	20	-16	-11	[NA]	26
Dissolved Oxygen*	mg/L	8.9	8.2	6.0	[NA]	7.9
Total Dissolved Solids (grav)	mg/L	2,700	18,000	4,100	[NA]	20,000
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
TKN in water	mg/L	1.4	1.9	3.5	[NA]	0.9
Total Nitrogen in water	mg/L	1.4	2.0	3.5	[NA]	0.9
Nitrate as N in water	mg/L	<0.005	0.04	<0.005	[NA]	<0.005
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	[NA]	<0.005
Ammonia as N in water	mg/L	0.53	1.7	3.2	[NA]	0.81
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	[NA]	<0.005

Metals in Waters - Acid extractable					
Our Reference		307846-1	307846-2	307846-3	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05	<0.05

Acid Herbicides in Water						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-					
Date analysed	-					
Clopyralid	µg/L					
3,5-Dichlorobenzoic acid	µg/L					
o-chlorophenoxy acetic acid	µg/L					
4-CPA	µg/L					
Dicamba	µg/L					
MCPP	µg/L					
MCPA	µg/L					
Dichlorprop	µg/L					
2,4-D	µg/L					
Bromoxynil	µg/L					
Triclopyr	µg/L					
2,4,5-TP	µg/L					
2,4,5-T	µg/L					
MCPB	µg/L					
Dinoseb	µg/L					
2,4-DB	µg/L					
Ioxynil	µg/L					
Picloram	µg/L					
Acifluorfen	µg/L					
2,4,6-T	µg/L					
2,6-D	µg/L					
Fluroxypyr	µg/L					
Chloramben	µg/L					
Bentazon	µg/L					
Surrogate 2.4- DCPA	%					

PFAS in Waters Extended						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH2 5	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Date analysed	-	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	0.02	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	0.05	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.02	<0.01	0.02	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.02
6:2 FTS	µg/L	<0.01	0.01	<0.01	<0.01	<0.02
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	95	96	107	99	102
Surrogate $^{13}C_2$ PFOA	%	100	102	100	98	104
Extracted ISTD $^{13}C_3$ PFBS	%	95	95	89	96	87
Extracted ISTD $^{18}O_2$ PFHxS	%	95	89	87	93	92
Extracted ISTD $^{13}C_4$ PFOS	%	101	100	94	95	93
Extracted ISTD $^{13}C_4$ PFBA	%	83	61	76	103	46

PFAS in Waters Extended						
Our Reference		307846-1	307846-2	307846-3	307846-4	307846-5
Your Reference	UNITS	SMW_ENV224	SMW_WTP_BH25	C25_MW16	R2	CZ25_BH52
Date Sampled		11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	93	69	80	91	66
Extracted ISTD $^{13}C_2$ *PFHxA*	%	98	80	86	95	69
Extracted ISTD $^{13}C_4$ *PFHpA*	%	96	86	87	98	79
Extracted ISTD $^{13}C_4$ *PFOA*	%	100	83	93	102	77
Extracted ISTD $^{13}C_5$ *PFNA*	%	103	90	95	100	80
Extracted ISTD $^{13}C_2$ *PFDA*	%	100	86	89	102	83
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	96	88	93	96	81
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	94	94	95	98	82
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	87	81	82	89	76
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	97	42	54	97	32
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	43	56	102	37
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	106	55	68	100	47
Extracted ISTD $^{13}C_8$ *FOSA*	%	105	92	96	101	91
Extracted ISTD d_3 *N MeFOSA*	%	100	97	94	98	93
Extracted ISTD d_5 *N EtFOSA*	%	108	102	108	108	100
Extracted ISTD d_7 *N MeFOSE*	%	96	85	87	95	86
Extracted ISTD d_9 *N EtFOSE*	%	88	86	88	91	80
Extracted ISTD d_3 *N MeFOSAA*	%	106	52	68	107	47
Extracted ISTD d_5 *N EtFOSAA*	%	106	60	76	116	46
Total Positive PFHxS & PFOS	µg/L	0.01	<0.01	0.02	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.02	<0.01	0.02	<0.01	<0.01
Total Positive PFAS	µg/L	0.11	0.01	0.05	<0.01	<0.01

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
Date extracted	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	15/10/2022	[NT]
Date analysed	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	15/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	1	<10	<10	0	39	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	81	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	71	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	70	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	95	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	100	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	113	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	63	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	114	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	97	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	132	[NT]
Anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	127	[NT]
Pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	135	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	1	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	1	<2	<2	0	117	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	128	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	102	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	96	[NT]
b-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	103	[NT]
g-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	87	[NT]
Aldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	113	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	1	<2	<2	0	111	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	[NT]
Endrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	90	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	1	<2	<2	0	129	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	1	<2	<2	0	96	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	1	<2	<2	0	105	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	91	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	1	<2	<2	0	97	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	112	[NT]
Fenthion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	1	<2	<2	0	97	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	1	<2	<2	0	109	[NT]
Phosalone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	43	1	50	54	8	51	[NT]
Surrogate Phenol-d_6	%		Org-022/025	30	1	35	43	21	36	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	87	1	92	93	1	91	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	81	1	89	88	1	81	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	81	1	80	83	4	82	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	92	1	93	96	3	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
Date extracted	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	15/10/2022	[NT]
Date analysed	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	15/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	108	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Date analysed	-			14/10/2022	1	15/10/2022	15/10/2022		14/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	90	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	108	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	90	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	108	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	86	[NT]
Surrogate o-Terphenyl	%		Org-020	95	1	94	103	9	84	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		[NT]	[NT]
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		[NT]	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	92	1	93	96	3	[NT]	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	95	[NT]
Acenaphthene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	113	[NT]
Fluorene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	114	[NT]
Phenanthrene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	132	[NT]
Fluoranthene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	127	[NT]
Pyrene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	135	[NT]
Chrysene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	117	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	128	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		[NT]	[NT]
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		[NT]	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	88	1	96	98	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	98	[NT]
beta-BHC	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	87	[NT]
Aldrin	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	113	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	112	[NT]
pp-DDE	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	111	[NT]
Dieldrin	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	112	[NT]
Endrin	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	90	[NT]
pp-DDD	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	129	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			13/10/2022	1	13/10/2022	13/10/2022		[NT]	[NT]
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		[NT]	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	88	1	96	98	2	[NT]	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	105	[NT]
Ronnel	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	91	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	97	[NT]
Malathion	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	112	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	112	[NT]
Parathion	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	97	[NT]
Ethion	µg/L	0.2	Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	[NT]
Date analysed	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	530	510	4	93	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	7.0	6.9	1	94	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	170	170	0	96	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	110	110	0	98	[NT]
Hardness	$mgCaCO_3/L$	3	Metals-020	[NT]	1	1800	1700	6	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	540	[NT]		100	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	1300	[NT]		90	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	240	[NT]		94	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	-2.0	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	105	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	100	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	99	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	97	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	102	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	550	570	4	95	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	7	7	0	99	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	13	11	17	98	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	[NT]
Date analysed	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	[NT]
pH	pH Units		Inorg-001	[NT]	1	6.8	[NT]		100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	3400	[NT]		101	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	20	[NT]		94	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	1	8.9	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	2700	[NT]		108	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	99	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	1.4	1.4	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	1.4	1.4	0	97	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		101	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		101	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.53	[NT]		97	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	[NT]		96	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	89	[NT]

QUALITY CONTROL: Acid Herbicides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	[NT]
Date analysed	-			12/10/2022	1	12/10/2022	12/10/2022		12/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	101	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	104	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	114	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	118	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	97	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	0.05	0.05	0	106	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	108	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	101	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	0.01	0.01	0	103	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	0.02	0.02	0	104	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	109	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	106	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	108	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	101	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	114	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	111	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	110	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	103	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	109	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	100	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	112	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	113	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	96	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	111	1	95	102	7	113	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	97	1	100	98	2	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	93	1	95	87	9	95	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	95	1	95	94	1	94	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	89	1	101	96	5	88	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	103	1	83	82	1	102	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	100	1	93	89	4	93	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	102	1	98	97	1	99	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	92	1	96	100	4	96	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	103	1	100	100	0	97	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	102	1	103	102	1	96	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	102	1	100	100	0	102	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	100	1	96	100	4	102	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	101	1	94	99	5	93	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	85	1	87	87	0	80	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	109	1	97	91	6	98	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	100	1	92	94	2	103	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	115	1	106	108	2	105	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	103	1	105	100	5	98	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	98	1	100	98	2	92	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	98	1	108	106	2	94	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	100	1	96	90	6	93	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	100	1	88	93	6	93	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	117	1	106	97	9	112	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	116	1	106	106	0	111	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Dissolved Metals: no filtered, preserved sample was received for #4, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

TRH Water(C10-C40) NEPM - The positive result in the rinsate sample is due to a single peak with no hydrocarbon profile that is consistent with the use of plastic containers.

SVOC's in water - The PQLs for 307846-1-5 has been raised due to the low spike recoveries. This may reflect other samples where similar in matrix and similar analytical interferences occur.

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CERTIFICATE OF ANALYSIS 307847

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Patrick Carroll
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.03, SMW WTP GWMP**
Number of Samples	3 Water
Date samples received	12/10/2022
Date completed instructions received	12/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	19/10/2022
Date of Issue	19/10/2022

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VOCs in water				
Our Reference	UNITS	307847-1	307847-2	307847-3
Your Reference		CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	99	99	106
Surrogate toluene-d8	%	101	98	103
Surrogate 4-BFB	%	93	88	93

SVOC's in water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022
Phenol	µg/L	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5
Isophorone	µg/L	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20

SVOC's in water				
Our Reference	UNITS	307847-1	307847-2	307847-3
Your Reference		CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5
Fluorene	µg/L	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2
Anthracene	µg/L	<2	<2	<2
Carbazole	µg/L	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2
Pyrene	µg/L	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2
Chrysene	µg/L	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5
Aniline	µg/L	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5

SVOC's in water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Safrole	µg/L	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2
a-BHC	µg/L	<2	<2	<2
b-BHC	µg/L	<2	<2	<2
g-BHC	µg/L	<2	<2	<2
d-BHC	µg/L	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2
Aldrin	µg/L	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2
Endrin	µg/L	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2

SVOC's in water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2
Phorate	µg/L	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2
Fenthion	µg/L	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2
Methidathion	µg/L	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2
Ethion	µg/L	<2	<2	<2
Phosalone	µg/L	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2
Surrogate 2-fluorophenol	%	54	52	53
Surrogate Phenol-d_6	%	37	36	41
Surrogate Nitrobenzene-d_5	%	94	79	90
Surrogate 2-fluorobiphenyl	%	79	70	74
Surrogate 2,4,6-Tribromophenol	%	84	78	75
Surrogate *p*-Terphenyl-d_{14}	%	89	78	85

vTRH(C6-C10)/BTEXN in Water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	15/10/2022	15/10/2022	15/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10
Benzene	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
o-xylene	µg/L	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	99	99	106
Surrogate toluene-d8	%	101	98	103
Surrogate 4-BFB	%	93	88	93

svTRH (C10-C40) in Water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	14/10/2022	15/10/2022	15/10/2022
TRH C_{10} - C_{14}	µg/L	<50	110	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	110	<50
TRH >C_{10} - C_{16}	µg/L	<50	150	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	150	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	150	<50
Surrogate o-Terphenyl	%	99	83	99

PAHs in Water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	89	78	85

Organochlorine Pesticides in Water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	71	78

OP Pesticides in Water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	83	71	78

Ion Balance				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date prepared	-	12/10/2022	12/10/2022	12/10/2022
Date analysed	-	12/10/2022	12/10/2022	12/10/2022
Calcium - Dissolved	mg/L	95	170	59
Potassium - Dissolved	mg/L	6.1	12	6.3
Sodium - Dissolved	mg/L	1,100	2,900	3,000
Magnesium - Dissolved	mg/L	100	470	410
Hardness	$mgCaCO_3/L$	650	2,400	1,800
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	200	130	30
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	200	130	30
Sulphate, SO4	mg/L	750	1,400	950
Chloride, Cl	mg/L	1,400	5,200	5,200
Ionic Balance	%	1.0	-1.0	0

All metals in water-dissolved				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022
Aluminium-Dissolved	µg/L	20	200	780
Arsenic-Dissolved	µg/L	<1	<1	<1
Cadmium-Dissolved	µg/L	0.1	0.3	0.2
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	3	7	6
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1	2
Manganese-Dissolved	µg/L	260	620	230
Nickel-Dissolved	µg/L	7	22	29
Zinc-Dissolved	µg/L	62	85	100

Miscellaneous Inorganics				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date prepared	-	12/10/2022	12/10/2022	12/10/2022
Date analysed	-	12/10/2022	12/10/2022	12/10/2022
pH	pH Units	6.3	5.9	5.4
Electrical Conductivity	µS/cm	6,400	18,000	17,000
Oxidation Reduction Potential*	mV	155	133	142
Dissolved Oxygen*	mg/L	8.3	8.0	8.0
Total Dissolved Solids (grav)	mg/L	3,600	12,000	12,000
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001
TKN in water	mg/L	0.1	0.3	0.2
Total Nitrogen in water	mg/L	0.1	0.4	0.2
Nitrate as N in water	mg/L	0.02	0.03	0.01
Nitrite as N in water	mg/L	<0.005	0.007	<0.005
Ammonia as N in water	mg/L	<0.005	0.096	0.042
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005

Metals in Waters - Acid extractable				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date prepared	-	19/10/2022	19/10/2022	19/10/2022
Date analysed	-	19/10/2022	19/10/2022	19/10/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05

Acid Herbicides in Water				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	17/10/2022	17/10/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1
Picloram	µg/L	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1
Chloramben	µg/L	<1	<1	<1
Bentazon	µg/L	<1	<1	<1
Surrogate 2.4- DCPA	%	90	83	87

PFAS in Waters Extended				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	97	100	103
Surrogate $^{13}C_2$ PFOA	%	98	98	95
Extracted ISTD $^{13}C_3$ PFBS	%	99	92	103
Extracted ISTD $^{18}O_2$ PFHxS	%	96	98	97
Extracted ISTD $^{13}C_4$ PFOS	%	100	93	98
Extracted ISTD $^{13}C_4$ PFBA	%	82	54	61

PFAS in Waters Extended				
Our Reference		307847-1	307847-2	307847-3
Your Reference	UNITS	CZ4e-MW03	CZ4e-MW01	CZ4e-MW02
Date Sampled		11/10/2022	11/10/2022	11/10/2022
Type of sample		Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	84	77	75
Extracted ISTD $^{13}C_2$ *PFHxA*	%	89	82	82
Extracted ISTD $^{13}C_4$ *PFHpA*	%	92	85	87
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	92	94
Extracted ISTD $^{13}C_5$ *PFNA*	%	97	88	91
Extracted ISTD $^{13}C_2$ *PFDA*	%	98	89	94
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	104	98	95
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106	91	99
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	91	84	90
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	54	40	37
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	53	43	47
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	71	58	64
Extracted ISTD $^{13}C_8$ *FOSA*	%	98	96	97
Extracted ISTD d_3 *N MeFOSA*	%	100	95	97
Extracted ISTD d_5 *N EtFOSA*	%	105	100	106
Extracted ISTD d_7 *N MeFOSE*	%	94	91	91
Extracted ISTD d_9 *N EtFOSE*	%	99	90	92
Extracted ISTD d_3 *N MeFOSAA*	%	74	56	59
Extracted ISTD d_5 *N EtFOSAA*	%	76	51	53
Total Positive PFHxS & PFOS	µg/L	0.03	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.03	<0.01	<0.01

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	[NT]
Date extracted	-			14/10/2022	1	14/10/2022	17/10/2022		14/10/2022	[NT]
Date analysed	-			15/10/2022	1	15/10/2022	18/10/2022		15/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	81	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	82	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	86	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	83	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	109	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	119	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	120	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	107	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	1	99	90	10	88	[NT]
Surrogate toluene-d8	%		Org-023	100	1	101	119	16	96	[NT]
Surrogate 4-BFB	%		Org-023	93	1	93	105	12	90	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	39	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	71	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	70	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	95	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	100	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	113	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	63	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	97	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	132	[NT]
Anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	127	[NT]
Pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	135	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	117	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	128	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
b-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
g-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	87	[NT]
Aldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	113	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	111	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Endrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	90	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	129	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Fenthion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Phosalone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	43	[NT]	[NT]	[NT]	[NT]	51	[NT]
Surrogate Phenol-d_6	%		Org-022/025	30	[NT]	[NT]	[NT]	[NT]	36	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	87	[NT]	[NT]	[NT]	[NT]	91	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	81	[NT]	[NT]	[NT]	[NT]	81	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	81	[NT]	[NT]	[NT]	[NT]	82	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	[NT]
Date extracted	-			14/10/2022	1	14/10/2022	17/10/2022		14/10/2022	[NT]
Date analysed	-			15/10/2022	1	15/10/2022	18/10/2022		15/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	114	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	114	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	116	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	117	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	112	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	112	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	116	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	1	99	90	10	88	[NT]
Surrogate toluene-d8	%		Org-023	100	1	101	119	16	96	[NT]
Surrogate 4-BFB	%		Org-023	93	1	93	105	12	90	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	95	[NT]	[NT]	[NT]	[NT]	84	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	132	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	127	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	135	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	117	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	128	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	98	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	87	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	113	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	112	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	111	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	129	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	88	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	88	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			12/10/2022	[NT]	[NT]	[NT]	[NT]	12/10/2022	[NT]
Date analysed	-			12/10/2022	[NT]	[NT]	[NT]	[NT]	12/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	105	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	97	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	95	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			12/10/2022	[NT]	[NT]	[NT]	[NT]	12/10/2022	[NT]
Date analysed	-			12/10/2022	[NT]	[NT]	[NT]	[NT]	12/10/2022	[NT]
pH	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	[NT]	[NT]	[NT]	[NT]	94	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	[NT]	[NT]	[NT]	[NT]	99	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	[NT]	[NT]	[NT]	[NT]	99	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	101	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	[NT]	[NT]	[NT]	[NT]	101	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	[NT]	[NT]	[NT]	[NT]	97	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Date analysed	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307847-1
Date extracted	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	17/10/2022
Date analysed	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	17/10/2022
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	62	86
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	70	83
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	67	85
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	64	86
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	61	80
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	78	[NT]	[NT]	[NT]	[NT]	88	83

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Date analysed	-			13/10/2022	[NT]	[NT]	[NT]	[NT]	13/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	84	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	100	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	96	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	104	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	104	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	96	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	109	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	105	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Herbicides analysed by MPL Laboratories. Report No. PDJ0771

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

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CERTIFICATE OF ANALYSIS 307925

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Patrick Carroll
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	SC210108.03, SMW WTP GWMP
Number of Samples	8 Water
Date samples received	13/10/2022
Date completed instructions received	13/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	20/10/2022
Date of Issue	20/10/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By

Alexander Mitchell Maclean, Senior Chemist
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Loren Bardwell, Development Chemist
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/10/2022	16/10/2022	16/10/2022	16/10/2022	16/10/2022
Date analysed	-	16/10/2022	16/10/2022	16/10/2022	16/10/2022	16/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	93	92	103	96
Surrogate toluene-d8	%	99	98	97	117	99
Surrogate 4-BFB	%	92	91	93	87	90

VOCs in water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	16/10/2022
Date analysed	-	16/10/2022
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water		
Our Reference	UNITS	307925-6
Your Reference		SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	94
Surrogate toluene-d8	%	99
Surrogate 4-BFB	%	103

SVOC's in water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Phenol	µg/L	<10	<10	<10	<10	<10
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<100	<100	<100	<100	<100
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	52	65	43	55	57
Surrogate Phenol-d_6	%	40	46	31	43	39
Surrogate Nitrobenzene-d_5	%	93	100	71	90	93
Surrogate 2-fluorobiphenyl	%	90	92	67	83	88
Surrogate 2,4,6-Tribromophenol	%	89	92	65	86	88
Surrogate *p*-Terphenyl-d_{14}	%	98	100	76	92	92

SVOC's in water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	17/10/2022
Date analysed	-	18/10/2022
Phenol	µg/L	<10
Bis (2-chloroethyl) ether	µg/L	<5
2-Chlorophenol	µg/L	<2
1,3-Dichlorobenzene	µg/L	<2
1,4-Dichlorobenzene	µg/L	<2
2-Methylphenol	µg/L	<2
1,2-Dichlorobenzene	µg/L	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5
3/4-Methylphenol	µg/L	<4
N-nitrosodi-n-propylamine	µg/L	<5
Hexachloroethane	µg/L	<2
Nitrobenzene	µg/L	<5
Isophorone	µg/L	<5
2,4-Dimethylphenol	µg/L	<2
2-Nitrophenol	µg/L	<2
bis (2-Chloroethoxy) methane	µg/L	<5
2,4-Dichlorophenol	µg/L	<2
1,2,4-Trichlorobenzene	µg/L	<2
Naphthalene	µg/L	<2
4-Chloroaniline	µg/L	<5
4-Chloro-3-methylphenol	µg/L	<10
Hexachlorobutadiene	µg/L	<2
2-Methylnaphthalene	µg/L	<2
Hexachlorocyclopentadiene	µg/L	<5
2,4,6-Trichlorophenol	µg/L	<2
2,4,5-Trichlorophenol	µg/L	<2
2-Chloronaphthalene	µg/L	<2
2-Nitroaniline	µg/L	<5
Dimethyl phthalate	µg/L	<10
2,6-Dinitrotoluene	µg/L	<5
Acenaphthylene	µg/L	<2
3-Nitroaniline	µg/L	<5
Acenaphthene	µg/L	<2
2,4-Dinitrophenol	µg/L	<20

SVOC's in water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
4-Nitrophenol	µg/L	<100
Dibenzofuran	µg/L	<5
Diethylphthalate	µg/L	<10
4-Chlorophenylphenylether	µg/L	<5
4-Nitroaniline	µg/L	<5
Fluorene	µg/L	<2
2-methyl-4,6-dinitrophenol	µg/L	<20
Azobenzene	µg/L	<5
4-Bromophenylphenylether	µg/L	<5
Hexachlorobenzene	µg/L	<2
Pentachlorophenol	µg/L	<10
Phenanthrene	µg/L	<2
Anthracene	µg/L	<2
Carbazole	µg/L	<5
Di-n-butylphthalate	µg/L	<10
Fluoranthene	µg/L	<2
Pyrene	µg/L	<2
Butylbenzylphthalate	µg/L	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50
Benzo(a)anthracene	µg/L	<2
Chrysene	µg/L	<2
Di-n-octylphthalate	µg/L	<10
Benzo(b,j+k)fluoranthene	µg/L	<4
Benzo(a)pyrene	µg/L	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2
Dibenzo(a,h)anthracene	µg/L	<2
Benzo(g,h,i)perylene	µg/L	<2
Ethylmethanesulfonate	µg/L	<5
Aniline	µg/L	<5
Pentachloroethane	µg/L	<2
Benzyl alcohol	µg/L	<5
Acetophenone	µg/L	<5
N-nitrosomorpholine	µg/L	<5
N-nitrosopiperidine	µg/L	<5
2,6-Dichlorophenol	µg/L	<2
Hexachloropropene-1	µg/L	<2
N-nitroso-n-butylamine	µg/L	<5

SVOC's in water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Safrole	µg/L	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2
Trans/Cis-iso-safrole	µg/L	<5
1,3-Dinitrobenzene	µg/L	<5
Pentachlorobenzene	µg/L	<2
1-Naphthylamine	µg/L	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2
2-Naphthylamine	µg/L	<5
5-Nitro-o-toluidine	µg/L	<5
Diphenylamine	µg/L	<5
Phenacetin	µg/L	<5
Pentachloronitrobenzene	µg/L	<5
Dinoseb	µg/L	<10
Methapyrilene	µg/L	<10
p-Dimethylaminoazobenzene	µg/L	<5
2-Acetylaminofluorene	µg/L	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2
3-Methylcholanthrene	µg/L	<2
a-BHC	µg/L	<2
b-BHC	µg/L	<2
g-BHC	µg/L	<2
d-BHC	µg/L	<2
Heptachlor	µg/L	<2
Aldrin	µg/L	<2
Heptachlor Epoxide	µg/L	<2
g-Chlordane	µg/L	<2
a-Chlordane	µg/L	<2
Endosulfan I	µg/L	<2
p,p'-DDE	µg/L	<2
Dieldrin	µg/L	<2
Endrin	µg/L	<2
p,p'-DDD	µg/L	<2
Endosulfan II	µg/L	<2
Endrin Aldehyde	µg/L	<2
p,p'-DDT	µg/L	<2
Endosulfan Sulphate	µg/L	<2
Endrin Ketone	µg/L	<2

SVOC's in water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Methoxychlor	µg/L	<2
Dichlorvos	µg/L	<2
Mevinphos	µg/L	<2
Phorate	µg/L	<2
Dimethoate	µg/L	<2
Diazinon (dimpylate)	µg/L	<2
Disulfoton	µg/L	<2
Chloropyriphos-methyl	µg/L	<2
Parathion-methyl	µg/L	<2
Ronnel (fenchlorphos)	µg/L	<2
Fenitrothion	µg/L	<2
Malathion (Maldison)	µg/L	<2
Chloropyriphos	µg/L	<2
Fenthion	µg/L	<2
Parathion (parathion-ethyl)	µg/L	<2
Bromophos Ethyl	µg/L	<2
Methidathion	µg/L	<2
Fenamiphos (Phenamiphos)	µg/L	<2
Ethion	µg/L	<2
Phosalone	µg/L	<2
Azinphos methyl (Guthion)	µg/L	<2
Coumaphos (Co-Ral)	µg/L	<2
Surrogate 2-fluorophenol	%	50
Surrogate Phenol-d_6	%	36
Surrogate Nitrobenzene-d_5	%	82
Surrogate 2-fluorobiphenyl	%	73
Surrogate 2,4,6-Tribromophenol	%	80
Surrogate *p*-Terphenyl-d_{14}	%	77

vTRH(C6-C10)/BTEXN in Water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/10/2022	16/10/2022	16/10/2022	16/10/2022	16/10/2022
Date analysed	-	16/10/2022	16/10/2022	16/10/2022	16/10/2022	16/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	93	92	103	96
Surrogate toluene-d8	%	99	98	97	117	99
Surrogate 4-BFB	%	92	91	93	87	90

vTRH(C6-C10)/BTEXN in Water				
Our Reference		307925-6	307925-7	307925-8
Your Reference	UNITS	SMW-ADD_BH02	TS3	TB3
Date Sampled		12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water
Date extracted	-	16/10/2022	16/10/2022	16/10/2022
Date analysed	-	16/10/2022	16/10/2022	16/10/2022
TRH C_6 - C_9	µg/L	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	[NA]	<10
Benzene	µg/L	<1	120%	<1
Toluene	µg/L	<1	110%	<1
Ethylbenzene	µg/L	<1	112%	<1
m+p-xylene	µg/L	<2	117%	<2
o-xylene	µg/L	<1	118%	<1
Naphthalene	µg/L	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	94	83	86
Surrogate toluene-d8	%	99	90	98
Surrogate 4-BFB	%	103	83	90

svTRH (C10-C40) in Water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	89	92	80	93	87

svTRH (C10-C40) in Water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	17/10/2022
Date analysed	-	18/10/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	120
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	120
TRH >C_{10} - C_{16}	µg/L	60
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	60
TRH >C_{16} - C_{34}	µg/L	130
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	190
Surrogate o-Terphenyl	%	72

PAHs in Water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98	100	76	92	92

PAHs in Water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	17/10/2022
Date analysed	-	18/10/2022
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate p-Terphenyl-d14	%	77

Organochlorine Pesticides in Water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	100	102	71	91	91

Organochlorine Pesticides in Water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	17/10/2022
Date analysed	-	18/10/2022
alpha-BHC	µg/L	<0.2
HCB	µg/L	<0.2
beta-BHC	µg/L	<0.2
gamma-BHC	µg/L	<0.2
Heptachlor	µg/L	<0.2
delta-BHC	µg/L	<0.2
Aldrin	µg/L	<0.2
Heptachlor Epoxide	µg/L	<0.2
gamma-Chlordane	µg/L	<0.2
alpha-Chlordane	µg/L	<0.2
Endosulfan I	µg/L	<0.2
pp-DDE	µg/L	<0.2
Dieldrin	µg/L	<0.2
Endrin	µg/L	<0.2
Endosulfan II	µg/L	<0.2
pp-DDD	µg/L	<0.2
Endrin Aldehyde	µg/L	<0.2
pp-DDT	µg/L	<0.2
Endosulfan Sulphate	µg/L	<0.2
Methoxychlor	µg/L	<0.2
Surrogate TCMX	%	79

OP Pesticides in Water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	100	102	71	91	91

OP Pesticides in Water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	17/10/2022
Date analysed	-	18/10/2022
Dichlorvos	µg/L	<0.2
Dimethoate	µg/L	<0.2
Diazinon	µg/L	<0.2
Chlorpyriphos-methyl	µg/L	<0.2
Ronnel	µg/L	<0.2
Fenitrothion	µg/L	<0.2
Malathion	µg/L	<0.2
Chlorpyriphos	µg/L	<0.2
Parathion	µg/L	<0.2
Bromophos ethyl	µg/L	<0.2
Ethion	µg/L	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2
Surrogate TCMX	%	79

Ion Balance						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-6
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	SMW-ADD_BH02
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Calcium - Dissolved	mg/L	50	310	130	130	18
Potassium - Dissolved	mg/L	11	23	17	17	3
Sodium - Dissolved	mg/L	190	5,200	190	180	43
Magnesium - Dissolved	mg/L	46	860	72	70	9.4
Hardness	mgCaCO 3 /L	310	4,300	630	610	84
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	420	410	730	700	22
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	420	410	730	700	22
Sulphate, SO4	mg/L	58	1,700	180	180	3
Chloride, Cl	mg/L	150	9,300	100	110	11
Ionic Balance	%	4.0	1.0	-1.0	0	64

All metals in water-dissolved						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Aluminium-Dissolved	μg/L	<10	<10	<10	<10	<10
Arsenic-Dissolved	μg/L	<1	4	1	1	<1
Cadmium-Dissolved	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	μg/L	<1	<1	<1	<1	<1
Copper-Dissolved	μg/L	6	<1	<1	<1	<1
Mercury-Dissolved	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead-Dissolved	μg/L	<1	<1	<1	<1	<1
Manganese-Dissolved	μg/L	9	1,400	870	880	<5
Nickel-Dissolved	μg/L	1	2	<1	<1	<1
Zinc-Dissolved	μg/L	8	6	1	3	3

All metals in water-dissolved		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date prepared	-	14/10/2022
Date analysed	-	14/10/2022
Aluminium-Dissolved	μg/L	50
Arsenic-Dissolved	μg/L	<1
Cadmium-Dissolved	μg/L	<0.1
Chromium-Dissolved	μg/L	1
Copper-Dissolved	μg/L	92
Mercury-Dissolved	μg/L	<0.05
Lead-Dissolved	μg/L	<1
Manganese-Dissolved	μg/L	21
Nickel-Dissolved	μg/L	14
Zinc-Dissolved	μg/L	130

Miscellaneous Inorganics						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Date analysed	-	13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
pH	pH Units	7.8	7.2	7.1	7.1	[NA]
Electrical Conductivity	µS/cm	1,300	28,000	1,800	1,800	[NA]
Oxidation Reduction Potential*	mV	105	-15	-30	-25	[NA]
Dissolved Oxygen*	mg/L	8.3	8.0	8.4	8.6	[NA]
Total Dissolved Solids (grav)	mg/L	830	23,000	1,100	1,200	[NA]
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
TKN in water	mg/L	0.3	0.9	11	11	[NA]
Total Nitrogen in water	mg/L	0.3	0.9	11	11	[NA]
Nitrate as N in water	mg/L	0.01	<0.005	<0.005	<0.005	[NA]
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	<0.005	[NA]
Ammonia as N in water	mg/L	0.012	0.79	10	10	[NA]
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	<0.005	[NA]

Miscellaneous Inorganics		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date prepared	-	13/10/2022
Date analysed	-	13/10/2022
pH	pH Units	5.3
Electrical Conductivity	µS/cm	84
Oxidation Reduction Potential*	mV	80
Dissolved Oxygen*	mg/L	8.7
Total Dissolved Solids (grav)	mg/L	50
Trivalent Chromium	mg/L	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001
TKN in water	mg/L	0.2
Total Nitrogen in water	mg/L	0.2
Nitrate as N in water	mg/L	0.008
Nitrite as N in water	mg/L	<0.005
Ammonia as N in water	mg/L	0.023
Phosphate as P in water	mg/L	<0.005

Metals in Waters - Acid extractable						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-6
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	SMW-ADD_BH02
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Phosphorus - Total	mg/L	<0.05	<0.05	0.4	0.4	0.06

Acid Herbicides in Water						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	82	78	88	81	90

Acid Herbicides in Water		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date extracted	-	17/10/2022
Date analysed	-	17/10/2022
Clopyralid	µg/L	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5
4-CPA	µg/L	<0.5
Dicamba	µg/L	<0.5
MCPP	µg/L	<0.5
MCPA	µg/L	<0.5
Dichlorprop	µg/L	<0.5
2,4-D	µg/L	<0.5
Bromoxynil	µg/L	<0.5
Triclopyr	µg/L	<0.5
2,4,5-TP	µg/L	<0.5
2,4,5-T	µg/L	<0.5
MCPB	µg/L	<0.5
Dinoseb	µg/L	<1
2,4-DB	µg/L	<0.5
Ioxynil	µg/L	<1
Picloram	µg/L	<1
Acifluorfen	µg/L	<2
2,4,6-T	µg/L	<0.5
2,6-D	µg/L	<0.5
Fluroxypyr	µg/L	<1
Chloramben	µg/L	<1
Bentazon	µg/L	<1
Surrogate 2.4- DCPA	%	89

PFAS in Waters Extended						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022	14/10/2022	14/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	0.04	0.04	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<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
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.02	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.02	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.04	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.04	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	93	94	97	97	92
Surrogate $^{13}C_2$ PFOA	%	108	105	105	100	103
Extracted ISTD $^{13}C_3$ PFBS	%	102	98	106	101	106
Extracted ISTD $^{18}O_2$ PFHxS	%	98	99	103	97	101
Extracted ISTD $^{13}C_4$ PFOS	%	112	110	111	111	112
Extracted ISTD $^{13}C_4$ PFBA	%	105	59	85	84	116

PFAS in Waters Extended						
Our Reference		307925-1	307925-2	307925-3	307925-4	307925-5
Your Reference	UNITS	SMW_WTP_BH13	SMW_ENV039	SMW_ENV009	QC03	R3
Date Sampled		12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	88	67	88	88	89
Extracted ISTD $^{13}C_2$ *PFHxA*	%	100	78	103	103	99
Extracted ISTD $^{13}C_4$ *PFHpA*	%	92	77	98	101	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	106	88	111	111	107
Extracted ISTD $^{13}C_5$ *PFNA*	%	93	82	98	103	95
Extracted ISTD $^{13}C_2$ *PFDA*	%	114	95	111	115	109
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	103	92	101	106	102
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	111	101	116	110	111
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	78	72	84	79	78
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	97	35	109	114	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	102	38	105	108	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	112	54	106	129	127
Extracted ISTD $^{13}C_8$ *FOSA*	%	101	99	108	109	106
Extracted ISTD d_3 *N MeFOSA*	%	101	103	102	105	101
Extracted ISTD d_5 *N EtFOSA*	%	92	92	98	97	95
Extracted ISTD d_7 *N MeFOSE*	%	95	96	104	97	97
Extracted ISTD d_9 *N EtFOSE*	%	108	99	106	103	106
Extracted ISTD d_3 *N MeFOSAA*	%	92	43	81	93	105
Extracted ISTD d_5 *N EtFOSAA*	%	91	39	77	86	94
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	0.06	0.04	<0.01

PFAS in Waters Extended		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Date prepared	-	14/10/2022
Date analysed	-	14/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02
Perfluorobutanoic acid	µg/L	<0.02
Perfluoropentanoic acid	µg/L	<0.02
Perfluorohexanoic acid	µg/L	<0.01
Perfluoroheptanoic acid	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
Perfluorononanoic acid	µg/L	<0.01
Perfluorodecanoic acid	µg/L	<0.02
Perfluoroundecanoic acid	µg/L	<0.02
Perfluorododecanoic acid	µg/L	<0.05
Perfluorotridecanoic acid	µg/L	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5
4:2 FTS	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.02
10:2 FTS	µg/L	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	95
Surrogate $^{13}C_2$ *PFOA*	%	106
Extracted ISTD $^{13}C_3$ *PFBS*	%	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102
Extracted ISTD $^{13}C_4$ *PFOS*	%	107
Extracted ISTD $^{13}C_4$ *PFBA*	%	140

PFAS in Waters Extended		
Our Reference		307925-6
Your Reference	UNITS	SMW-ADD_BH02
Date Sampled		12/10/2022
Type of sample		Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	84
Extracted ISTD $^{13}C_2$ *PFHxA*	%	103
Extracted ISTD $^{13}C_4$ *PFHpA*	%	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	107
Extracted ISTD $^{13}C_5$ *PFNA*	%	95
Extracted ISTD $^{13}C_2$ *PFDA*	%	112
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	103
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	82
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	113
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	106
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	127
Extracted ISTD $^{13}C_8$ *FOSA*	%	90
Extracted ISTD d_3 *N MeFOSA*	%	88
Extracted ISTD d_5 *N EtFOSA*	%	92
Extracted ISTD d_7 *N MeFOSE*	%	84
Extracted ISTD d_9 *N EtFOSE*	%	104
Extracted ISTD d_3 *N MeFOSAA*	%	90
Extracted ISTD d_5 *N EtFOSAA*	%	98
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01
Total Positive PFAS	µg/L	<0.01

Speciated Arsenic		
Our Reference		307925-2
Your Reference	UNITS	SMW_ENV039
Date Sampled		12/10/2022
Type of sample		Water
Date prepared	-	17/10/2022
Date analysed	-	17/10/2022
Arsenobetaine (ASB)	μg/L	<1
Arsenious Acid, As (III)	μg/L	<2
Dimethylarsenic Acid (DMA)	μg/L	<1
Monomethylarsonic Acid (MMA)	μg/L	<1
Arsenic Acid, As (V)	μg/L	3

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Metals-031	Analysis of Speciated forms of Arsenic using LC separation followed by ICP-MS analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			16/10/2022	1	16/10/2022	17/10/2022		16/10/2022	[NT]
Date analysed	-			16/10/2022	1	16/10/2022	18/10/2022		16/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	93	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	107	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	104	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	88	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	1	97	110	13	86	[NT]
Surrogate toluene-d8	%		Org-023	100	1	99	101	2	106	[NT]
Surrogate 4-BFB	%		Org-023	93	1	92	104	12	90	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			18/10/2022	1	17/10/2022	17/10/2022		18/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	1	<10	<10	0	41	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	91	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	81	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	78	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	105	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	114	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	133	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	1	<100	<100	0	45	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	137	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	1	<20	<20	0	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	1	<10	<10	0	99	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	110	[NT]
Anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	123	[NT]
Pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	135	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	1	<50	<50	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	1	<2	<2	0	131	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	136	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	108	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	116	[NT]
b-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	117	[NT]
g-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	93	[NT]
Aldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	124	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	1	<2	<2	0	120	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	1	<2	<2	0	121	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	124	[NT]
Endrin	µg/L	2	Org-022/025	<2	1	<2	<2	0	80	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	1	<2	<2	0	137	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	1	<2	<2	0	100	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	1	<2	<2	0	118	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	99	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	1	<2	<2	0	103	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	1	<2	<2	0	116	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	1	<2	<2	0	122	[NT]
Fenthion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	1	<2	<2	0	111	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	1	<2	<2	0	115	[NT]
Phosalone	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	41	1	52	41	24	46	[NT]
Surrogate Phenol-d_6	%		Org-022/025	26	1	40	35	13	31	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	90	1	93	92	1	89	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	84	1	90	86	5	86	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	85	1	89	69	25	88	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	94	1	98	93	5	95	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			16/10/2022	1	16/10/2022	17/10/2022		16/10/2022	[NT]
Date analysed	-			16/10/2022	1	16/10/2022	18/10/2022		16/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	118	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	118	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	116	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	119	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	119	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	119	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	118	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	1	97	110	13	86	[NT]
Surrogate toluene-d8	%		Org-023	100	1	99	101	2	116	[NT]
Surrogate 4-BFB	%		Org-023	93	1	92	104	12	90	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	85	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	105	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	85	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	105	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	100	[NT]
Surrogate o-Terphenyl	%		Org-020	94	1	89	84	6	82	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			14/10/2022	1	17/10/2022	17/10/2022		14/10/2022	[NT]
Date analysed	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	1	<1	<1	0	105	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	133	[NT]
Fluorene	µg/L	1	Org-022/025	<1	1	<1	<1	0	137	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	110	[NT]
Anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	1	<1	<1	0	123	[NT]
Pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	135	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	1	<1	<1	0	131	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	136	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	1	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	94	1	98	93	5	95	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			18/10/2022	1	17/10/2022	17/10/2022		18/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	116	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	117	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	93	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	124	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	120	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	121	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	124	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	80	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	137	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	100	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	1	100	89	12	98	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			18/10/2022	1	17/10/2022	17/10/2022		18/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	118	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	99	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	103	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	116	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	122	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	111	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	115	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	1	100	89	12	98	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-2
Date prepared	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	50	47	6	99	#
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	11	11	0	101	89
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	190	190	0	101	#
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	46	42	9	105	#
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	310	290	7	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	420	430	2	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	420	430	2	109	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	58	58	0	90	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	150	150	0	94	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	4.0	1.0	120	[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-2
Date prepared	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Date analysed	-			14/10/2022	1	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	98	84
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	107
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	96	94
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	92	87
Copper-Dissolved	µg/L	1	Metals-022	<1	1	6	6	0	93	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	108	95
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	97	82
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	9	10	11	92	#
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	92	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	8	8	0	93	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-2
Date prepared	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
Date analysed	-			13/10/2022	1	13/10/2022	13/10/2022		13/10/2022	13/10/2022
pH	pH Units		Inorg-001	[NT]	1	7.8	7.7	1	101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	1300	1300	0	102	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	105	[NT]		90	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	1	8.3	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	830	800	4	114	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	99	100
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.3	0.3	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.3	0.3	0	99	81
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.01	0.01	0	99	85
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	99	109
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.012	0.011	9	92	112
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	95	99

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-4
Date prepared	-			14/10/2022	3	14/10/2022	14/10/2022		14/10/2022	14/10/2022
Date analysed	-			18/10/2022	3	18/10/2022	18/10/2022		18/10/2022	18/10/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	3	0.4	0.4	0	105	103

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Date analysed	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	62	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	70	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	67	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	64	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	61	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	78	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-1
Date prepared	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	14/10/2022
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	14/10/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	94	109
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	114	116
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	105
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	106	110
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	98
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	82	91
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	97	102
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	106
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	102
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	114
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	89	96
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	118	129
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	92	103
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	82	91
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	90	96
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	71	75
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	90	95
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	117
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	88	95
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	88	100
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	76	93
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	96	105
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	99	107
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	109
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	94	100
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	71	74
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	104
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	102	117
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	96	93
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	103

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-1
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	99	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	91	101
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	103	110
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	113	103
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	81	[NT]	[NT]	[NT]	[NT]	83	85
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	96	100
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	94	90
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	106	108
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	91	93
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	107	107
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	100	101
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	108	[NT]	[NT]	[NT]	[NT]	108	112
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	76	[NT]	[NT]	[NT]	[NT]	77	77
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	99	93
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	108	104
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	128	[NT]	[NT]	[NT]	[NT]	117	115
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	97	96
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	98	95
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	86	89
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	100	92

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	307925-1
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	104	106
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	99	91
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	94	83

QUALITY CONTROL: Speciated Arsenic					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	
Date prepared	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Date analysed	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Arsenobetaine (ASB)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Arsenious Acid, As (III)	µg/L	2	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Dimethylarsenic Acid (DMA)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Monomethylarsonic Acid (MMA)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Arsenic Acid, As (V)	µg/L	1	Metals-031	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

All metals in water-dissolved - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Dissolved Metals: no filtered, preserved sample was received for sample #5, therefore the unpreserved sample was filtered through 0.45µm filter at the lab.
Note: there is a possibility some elements may be underestimated.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Arsenic speciation: detection limit has been raised for Arsenic 3+ because of matrix interferences affecting this particular analyte.

Ion Balance - # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Herbicides analysed by MPL Laboratories. Report No. PDJ1500

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle.
Note: there is a possibility some elements may be underestimated.

The mass inbalance may be caused by other ions that have not been measured.

SVOC's in water - The PQLs for 307925-1-6 have been raised due to the low spike recoveries. This may reflect other samples where similar in matrix and similar analytical interferences occur.

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CERTIFICATE OF ANALYSIS 308061

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Murti Purohit
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.03, SMW WTP GWMP**
Number of Samples	5 Water
Date samples received	14/10/2022
Date completed instructions received	14/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	21/10/2022
Date of Issue	21/10/2022

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Results Approved By
Diego Bigolin, Inorganics Supervisor
Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Kyle Gavrily, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	100	99	100
Surrogate toluene-d8	%	99	98	98
Surrogate 4-BFB	%	101	100	100

SVOC's in water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	19/10/2022	19/10/2022	19/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022
Phenol	µg/L	<10	<10	<10
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5
Isophorone	µg/L	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20

SVOC's in water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH2 3	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
4-Nitrophenol	µg/L	<100	<100	<100
Dibenzofuran	µg/L	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5
Fluorene	µg/L	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2
Anthracene	µg/L	<2	<2	<2
Carbazole	µg/L	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2
Pyrene	µg/L	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2
Chrysene	µg/L	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5
Aniline	µg/L	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5

SVOC's in water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Safrole	µg/L	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2
a-BHC	µg/L	<2	<2	<2
b-BHC	µg/L	<2	<2	<2
g-BHC	µg/L	<2	<2	<2
d-BHC	µg/L	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2
Aldrin	µg/L	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2
Endrin	µg/L	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2

SVOC's in water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH2 3	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2
Phorate	µg/L	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2
Fenthion	µg/L	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2
Methidathion	µg/L	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2
Ethion	µg/L	<2	<2	<2
Phosalone	µg/L	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2
Surrogate 2-fluorophenol	%	49	48	38
Surrogate Phenol-d_6	%	35	38	38
Surrogate Nitrobenzene-d_5	%	89	92	86
Surrogate 2-fluorobiphenyl	%	84	89	86
Surrogate 2,4,6-Tribromophenol	%	70	77	49
Surrogate *p*-Terphenyl-d_{14}	%	88	94	91

vTRH(C6-C10)/BTEXN in Water						
Our Reference		308061-1	308061-2	308061-3	308061-4	308061-5
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4	TS4	TB4
Date Sampled		13/10/2022	13/10/2022	13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	107%	<1
Toluene	µg/L	<1	<1	<1	107%	<1
Ethylbenzene	µg/L	<1	<1	<1	113%	<1
m+p-xylene	µg/L	<2	<2	<2	118%	<2
o-xylene	µg/L	<1	<1	<1	119%	<1
Naphthalene	µg/L	<1	<1	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	100	99	100	99	100
Surrogate toluene-d8	%	99	98	98	99	99
Surrogate 4-BFB	%	101	100	100	100	99

svTRH (C10-C40) in Water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	19/10/2022	19/10/2022	19/10/2022
Date analysed	-	21/10/2022	21/10/2022	21/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50
Surrogate o-Terphenyl	%	77	77	74

PAHs in Water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	18/10/2022	18/10/2022	18/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	94	91

Organochlorine Pesticides in Water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	18/10/2022	18/10/2022	18/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	85	89	86

OP Pesticides in Water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	18/10/2022	18/10/2022	18/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	85	89	86

Ion Balance				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date prepared	-	14/10/2022	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022	14/10/2022
Calcium - Dissolved	mg/L	20	120	<0.5
Potassium - Dissolved	mg/L	15	7.2	<0.5
Sodium - Dissolved	mg/L	560	200	<0.5
Magnesium - Dissolved	mg/L	25	16	<0.5
Hardness	$mgCaCO_3/L$	150	370	<3
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	670	210	<5
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	670	210	<5
Sulphate, SO4	mg/L	540	380	<1
Chloride, Cl	mg/L	240	100	<1
Ionic Balance	%	-7.0	4.0	N/A

All metals in water-dissolved			
Our Reference		308061-1	308061-2
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23
Date Sampled		13/10/2022	13/10/2022
Type of sample		Water	Water
Date prepared	-	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	17/10/2022
Aluminium-Dissolved	µg/L	210	10
Arsenic-Dissolved	µg/L	3	<1
Cadmium-Dissolved	µg/L	0.2	<0.1
Chromium-Dissolved	µg/L	<1	<1
Copper-Dissolved	µg/L	2	1
Mercury-Dissolved	µg/L	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1
Manganese-Dissolved	µg/L	1,800	440
Nickel-Dissolved	µg/L	20	38
Zinc-Dissolved	µg/L	38	28

Miscellaneous Inorganics			
Our Reference		308061-1	308061-2
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23
Date Sampled		13/10/2022	13/10/2022
Type of sample		Water	Water
Date prepared	-	14/10/2022	14/10/2022
Date analysed	-	14/10/2022	14/10/2022
pH	pH Units	7.1	7.4
Electrical Conductivity	µS/cm	3,100	1,500
Oxidation Reduction Potential*	mV	102	81
Dissolved Oxygen*	mg/L	8.6	8.9
Total Dissolved Solids (grav)	mg/L	2,100	1,100
Trivalent Chromium	mg/L	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001
TKN in water	mg/L	0.4	0.1
Total Nitrogen in water	mg/L	0.5	0.5
Nitrate as N in water	mg/L	0.14	0.36
Nitrite as N in water	mg/L	<0.005	0.015
Ammonia as N in water	mg/L	0.14	0.085
Phosphate as P in water	mg/L	<0.005	<0.005

Metals in Waters - Acid extractable			
Our Reference		308061-1	308061-2
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23
Date Sampled		13/10/2022	13/10/2022
Type of sample		Water	Water
Date prepared	-	18/10/2022	18/10/2022
Date analysed	-	20/10/2022	20/10/2022
Phosphorus - Total	mg/L	<0.05	<0.05

Acid Herbicides in Water				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH23	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date extracted	-	19/10/2022	19/10/2022	19/10/2022
Date analysed	-	19/10/2022	19/10/2022	19/10/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1
Picloram	µg/L	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1
Chloramben	µg/L	<1	<1	<1
Bentazon	µg/L	<1	<1	<1
Surrogate 2.4- DCPA	%	68	80	80

PFAS in Waters Extended				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH2 3	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Date prepared	-	17/10/2022	17/10/2022	17/10/2022
Date analysed	-	17/10/2022	17/10/2022	17/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	94	104	99
Surrogate $^{13}C_2$ *PFOA*	%	111	105	108
Extracted ISTD $^{13}C_3$ *PFBS*	%	106	101	107
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	105	105
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	109	111
Extracted ISTD $^{13}C_4$ *PFBA*	%	81	114	121

PFAS in Waters Extended				
Our Reference		308061-1	308061-2	308061-3
Your Reference	UNITS	MW_BH04	SMW_WTP_BH2 3	R4
Date Sampled		13/10/2022	13/10/2022	13/10/2022
Type of sample		Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	88	90	91
Extracted ISTD $^{13}C_2$ *PFHxA*	%	98	96	102
Extracted ISTD $^{13}C_4$ *PFHpA*	%	102	100	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	109	114	107
Extracted ISTD $^{13}C_5$ *PFNA*	%	98	100	101
Extracted ISTD $^{13}C_2$ *PFDA*	%	107	108	113
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	107	107	108
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	113	111	114
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	83	82	84
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	97	97	110
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	94	113	113
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	105	117	119
Extracted ISTD $^{13}C_8$ *FOSA*	%	110	109	111
Extracted ISTD d_3 *N MeFOSA*	%	104	104	108
Extracted ISTD d_5 *N EtFOSA*	%	103	101	104
Extracted ISTD d_7 *N MeFOSE*	%	105	103	107
Extracted ISTD d_9 *N EtFOSE*	%	112	118	115
Extracted ISTD d_3 *N MeFOSAA*	%	100	106	113
Extracted ISTD d_5 *N EtFOSAA*	%	98	109	104
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.01	<0.01

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	[NT]
Date extracted	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Date analysed	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	18/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	80	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate 4-BFB	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Date analysed	-			20/10/2022	[NT]	[NT]	[NT]	[NT]	20/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	41	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	87	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	73	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	70	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	98	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	115	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	44	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	94	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	120	[NT]
Anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	125	[NT]
Pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	133	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	113	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	102	[NT]
b-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
g-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	89	[NT]
Aldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	111	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Endrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	74	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	87	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Fenthion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Phosalone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	88	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	80	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	73	[NT]	[NT]	[NT]	[NT]	81	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	[NT]
Date extracted	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Date analysed	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	18/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	109	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate toluene-d8	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate 4-BFB	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Date analysed	-			20/10/2022	[NT]	[NT]	[NT]	[NT]	20/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	111	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	132	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	111	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	132	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	92	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	18/10/2022	[NT]
Date analysed	-			20/10/2022	[NT]	[NT]	[NT]	[NT]	20/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	125	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	133	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	113	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	18/10/2022	[NT]
Date analysed	-			20/10/2022	[NT]	[NT]	[NT]	[NT]	20/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	102	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	89	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	111	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	106	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	74	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	106	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	18/10/2022	[NT]
Date analysed	-			20/10/2022	[NT]	[NT]	[NT]	[NT]	20/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	87	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Ion Balance					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Date analysed	-			14/10/2022	[NT]	[NT]	[NT]	[NT]	14/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	100	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	97	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	100	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Date analysed	-			17/10/2022	[NT]	[NT]	[NT]	[NT]	17/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	99	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	109	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	99	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			14/10/2022	2	14/10/2022	14/10/2022		14/10/2022	[NT]
Date analysed	-			14/10/2022	2	14/10/2022	14/10/2022		14/10/2022	[NT]
pH	pH Units		Inorg-001	[NT]	2	7.4	[NT]		100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	2	1500	[NT]		101	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	2	81	[NT]		93	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	2	8.9	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	2	1100	1100	0	111	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	2	<0.001	[NT]		102	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	2	0.1	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	2	0.5	[NT]		90	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	2	0.36	[NT]		107	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	2	0.015	[NT]		107	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	2	0.085	[NT]		94	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	2	<0.005	[NT]		112	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			18/10/2022	[NT]	[NT]	[NT]	[NT]	18/10/2022	[NT]
Date analysed	-			20/10/2022	[NT]	[NT]	[NT]	[NT]	20/10/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: Acid Herbicides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Date analysed	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	68	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	88	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	116	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	72	[NT]	[NT]	[NT]	[NT]	60	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Date analysed	-			17/10/2022	1	17/10/2022	17/10/2022		17/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	96	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	105	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	99	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	101	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	104	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	102	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	98	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	116	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	98	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	103	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	96	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	103	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	98	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	99	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	105	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	112	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	105	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	102	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	1	<0.5	<0.5	0	94	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	104	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	1	<0.02	<0.02	0	101	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	1	94	94	0	102	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	110	1	111	110	1	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	102	1	106	101	5	104	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	107	1	99	107	8	105	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	107	1	110	114	4	104	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	111	1	81	82	1	112	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	106	1	88	88	0	97	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	101	1	98	96	2	99	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	101	1	102	106	4	103	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	106	1	109	107	2	110	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	101	1	98	101	3	100	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	108	1	107	110	3	106	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	110	1	107	102	5	107	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	112	1	113	109	4	110	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	90	1	83	88	6	90	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	106	1	97	103	6	109	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	104	1	94	107	13	110	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	108	1	105	102	3	105	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	110	1	110	112	2	104	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	101	1	104	106	2	103	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	98	1	103	106	3	104	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	106	1	105	102	3	105	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	110	1	112	118	5	108	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	111	1	100	96	4	104	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	115	1	98	103	5	109	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Herbicides analysed by Envirolab Services Melbourne. Report No. 34060

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

SVOC's in water - The PQLs for 308061-1-3 has been raised due to the low spike recoveries. This may reflect other samples where similar in matrix and similar analytical interferences occur.

D/O
Samples were out of the recommended holding time for this analysis.

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CERTIFICATE OF ANALYSIS 308297

Client Details	
Client	Epic Environmental (Sydney) Pty Ltd
Attention	Patrick Carroll
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details	
Your Reference	**SC210108.03, SMW WTP GWMP**
Number of Samples	7 Water
Date samples received	18/10/2022
Date completed instructions received	18/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details	
Date results requested by	25/10/2022
Date of Issue	25/10/2022

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Results Approved By
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Diego Bigolin, Inorganics Supervisor
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Jenny He, Senior Chemist
Liam Timmins, Organic Instruments Team Leader
Loren Bardwell, Development Chemist
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	59	3	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	106	106	107	106
Surrogate toluene-d8	%	100	101	100	101	100
Surrogate 4-BFB	%	100	100	100	100	100

vTRH(C6-C10)/BTEXN in Water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-5
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	TS5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
TRH C_6 - C_9	µg/L	63	<10	<10	<10	[NA]
TRH C_6 - C_{10}	µg/L	89	<10	<10	<10	[NA]
TRH C_6 - C_{10} less BTEX (F1)	µg/L	89	<10	<10	<10	[NA]
Benzene	µg/L	<1	<1	<1	<1	94%
Toluene	µg/L	<1	<1	<1	<1	112%
Ethylbenzene	µg/L	<1	<1	<1	<1	113%
m+p-xylene	µg/L	<2	<2	<2	<2	120%
o-xylene	µg/L	<1	<1	<1	<1	121%
Naphthalene	µg/L	<1	<1	<1	<1	[NA]
Surrogate Dibromofluoromethane	%	108	106	106	107	106
Surrogate toluene-d8	%	100	101	100	101	102
Surrogate 4-BFB	%	100	100	100	100	102

vTRH(C6-C10)/BTEXN in Water			
Our Reference		308297-6	308297-7
Your Reference	UNITS	TB5	R5
Date Sampled		17/10/2022	17/10/2022
Type of sample		Water	Water
Date extracted	-	20/10/2022	21/10/2022
Date analysed	-	20/10/2022	24/10/2022
TRH C_6 - C_9	µg/L	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Naphthalene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	105	109
Surrogate toluene-d8	%	101	101
Surrogate 4-BFB	%	100	97

svTRH (C10-C40) in Water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	22/10/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	85	85	89	83	98

PAHs in Water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	91	96	99	99	101

Organochlorine Pesticides in Water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022	24/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	92	93	96	93	95

OP Pesticides in Water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	92	93	96	93	95

SVOC's in water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Phenol	µg/L	<2	<2	<2	<2	<2
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20	<20

SVOC's in water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
4-Nitrophenol	µg/L	<20	<20	<20	<20	<20
Dibenzofuran	µg/L	<5	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5	<5

SVOC's in water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2	<2

SVOC's in water						
Our Reference	UNITS	308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference		PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	52	56	26	55	57
Surrogate Phenol-d_6	%	37	38	28	39	39
Surrogate Nitrobenzene-d_5	%	90	92	93	92	95
Surrogate 2-fluorobiphenyl	%	90	84	91	88	92
Surrogate 2,4,6-Tribromophenol	%	77	84	45	77	78
Surrogate *p*-Terphenyl-d_{14}	%	91	96	99	99	101

Ion Balance					
Our Reference		308297-1	308297-2	308297-3	308297-4
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Calcium - Dissolved	mg/L	7.0	5.3	7.0	6.6
Potassium - Dissolved	mg/L	9.5	0.5	2	2
Sodium - Dissolved	mg/L	24	120	110	110
Magnesium - Dissolved	mg/L	9.3	8.4	8.6	8.2
Hardness	mgCaCO 3 /L	56	48	53	50
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	23	30	110	110
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	23	30	110	110
Sulphate, SO4	mg/L	47	20	89	89
Chloride, Cl	mg/L	24	170	52	52
Ionic Balance	%	6.0	3.0	6.0	4.0

All metals in water-dissolved						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Date analysed	-	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Aluminium-Dissolved	µg/L	<10	30	<10	<10	<10
Arsenic-Dissolved	µg/L	<1	<1	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	1	7	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Manganese-Dissolved	µg/L	6	45	<5	<5	<5
Nickel-Dissolved	µg/L	<1	3	<1	<1	<1
Zinc-Dissolved	µg/L	1	49	2	5	3

Miscellaneous Inorganics					
Our Reference		308297-1	308297-2	308297-3	308297-4
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Date analysed	-	18/10/2022	18/10/2022	18/10/2022	18/10/2022
pH	pH Units	6.2	5.7	6.4	6.4
Electrical Conductivity	µS/cm	270	700	600	600
Oxidation Reduction Potential*	mV	45	68	85	89
Dissolved Oxygen*	mg/L	9.2	9.3	9.5	9.7
Total Dissolved Solids (grav)	mg/L	220	440	440	420
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001	<0.001
TKN in water	mg/L	0.1	<0.1	<0.1	<0.1
Total Nitrogen in water	mg/L	4.7	0.3	3.7	3.6
Nitrate as N in water	mg/L	4.5	0.32	3.8	3.9
Nitrite as N in water	mg/L	<0.005	<0.005	<0.005	<0.005
Ammonia as N in water	mg/L	0.005	<0.005	0.005	0.008
Phosphate as P in water	mg/L	<0.005	<0.005	<0.005	<0.005

Metals in Waters - Acid extractable					
Our Reference		308297-1	308297-2	308297-3	308297-4
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Phosphorus - Total	mg/L	<0.05	<0.05	<0.05	<0.05

Acid Herbicides in Water						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	74	67	66	76	73

PFAS in Waters Extended						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Date analysed	-	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Perfluorobutanesulfonic acid	µg/L	0.02	<0.01	0.05	0.06	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	0.02	0.02	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.21	0.20	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.03	<0.01	0.20	0.21	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	0.05	0.05	<0.02
Perfluoropentanoic acid	µg/L	0.04	<0.02	0.2	0.2	<0.02
Perfluorohexanoic acid	µg/L	0.02	<0.01	0.17	0.18	<0.01
Perfluoroheptanoic acid	µg/L	0.01	<0.01	0.07	0.07	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.03	<0.01	0.13	0.13	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	101	99	101	98	101
Surrogate $^{13}C_2$ *PFOA*	%	96	101	98	99	99
Extracted ISTD $^{13}C_3$ *PFBS*	%	101	104	108	103	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102	101	99	101	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	101	104	101	99
Extracted ISTD $^{13}C_4$ *PFBA*	%	98	97	98	96	102

PFAS in Waters Extended						
Our Reference		308297-1	308297-2	308297-3	308297-4	308297-7
Your Reference	UNITS	PM_BH16	PM_BH15	PM_BH14	QC05	R5
Date Sampled		17/10/2022	17/10/2022	17/10/2022	17/10/2022	17/10/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	99	97	99	100	101
Extracted ISTD $^{13}C_2$ *PFHxA*	%	95	96	98	95	94
Extracted ISTD $^{13}C_4$ *PFHpA*	%	105	106	109	108	106
Extracted ISTD $^{13}C_4$ *PFOA*	%	110	108	109	110	106
Extracted ISTD $^{13}C_5$ *PFNA*	%	113	111	112	110	111
Extracted ISTD $^{13}C_2$ *PFDA*	%	103	107	106	103	105
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	120	126	111	115	119
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	107	121	103	108	109
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	75	73	78	71	76
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	103	96	105	104	107
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	113	104	110	109	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	125	130	116	130	133
Extracted ISTD $^{13}C_8$ *FOSA*	%	112	113	112	116	112
Extracted ISTD d_3 *N MeFOSA*	%	98	98	99	97	101
Extracted ISTD d_5 *N EtFOSA*	%	106	107	106	103	105
Extracted ISTD d_7 *N MeFOSE*	%	106	114	109	106	109
Extracted ISTD d_9 *N EtFOSE*	%	104	96	102	100	103
Extracted ISTD d_3 *N MeFOSAA*	%	100	98	105	102	105
Extracted ISTD d_5 *N EtFOSAA*	%	112	113	106	104	115
Total Positive PFHxS & PFOS	µg/L	0.03	<0.01	0.41	0.42	<0.01
Total Positive PFOA & PFOS	µg/L	0.06	<0.01	0.32	0.34	<0.01
Total Positive PFAS	µg/L	0.15	<0.01	1.1	1.1	<0.01

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	1	20/10/2022	21/10/2022		21/10/2022	[NT]
Date analysed	-			24/10/2022	1	20/10/2022	24/10/2022		24/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	59	51	15	97	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	98	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	95	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	106	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	108	1	108	109	1	106	[NT]
Surrogate toluene-d8	%		Org-023	101	1	100	100	0	102	[NT]
Surrogate 4-BFB	%		Org-023	98	1	100	100	0	102	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	7	20/10/2022	21/10/2022		[NT]	[NT]
Date analysed	-			[NT]	7	20/10/2022	24/10/2022		[NT]	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
2,2-dichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromodichloromethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dibromoethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	7	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	7	106	109	3	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	7	100	101	1	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	7	100	97	3	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	1	20/10/2022	21/10/2022		21/10/2022	[NT]
Date analysed	-			24/10/2022	1	20/10/2022	24/10/2022		24/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	63	56	12	95	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	89	61	37	95	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	96	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	96	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	95	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	94	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	94	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	108	1	108	109	1	106	[NT]
Surrogate toluene-d8	%		Org-023	101	1	100	100	0	102	[NT]
Surrogate 4-BFB	%		Org-023	98	1	100	100	0	102	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	7	21/10/2022	21/10/2022		[NT]	[NT]
Date analysed	-			[NT]	7	24/10/2022	24/10/2022		[NT]	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	[NT]	7	<10	<10	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	[NT]	7	<2	<2	0	[NT]	[NT]
o-xylene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Naphthalene	µg/L	1	Org-023	[NT]	7	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	[NT]	7	109	109	0	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	[NT]	7	101	101	0	[NT]	[NT]
Surrogate 4-BFB	%		Org-023	[NT]	7	97	97	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	122	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	122	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	109	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	123	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	77	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	64	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	39	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	63	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	67	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	36	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	82	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
Pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	123	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
b-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
g-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	77	[NT]
Aldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	64	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Fenthion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Phosalone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	51	[NT]	[NT]	[NT]	[NT]	56	[NT]
Surrogate Phenol-d_6	%		Org-022/025	34	[NT]	[NT]	[NT]	[NT]	38	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	89	[NT]	[NT]	[NT]	[NT]	91	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	83	[NT]	[NT]	[NT]	[NT]	89	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	70	[NT]	[NT]	[NT]	[NT]	81	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	[NT]
Date analysed	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	7.0	[NT]		105	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	9.5	[NT]		102	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	24	[NT]		104	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	9.3	[NT]		107	[NT]
Hardness	mgCaCO 3 /L	3	Metals-020	[NT]	1	56	[NT]		[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	23	24	4	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	<5	0	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	23	24	4	106	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	47	45	4	93	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	24	24	0	99	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	6.0	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	308297-2
Date prepared	-			19/10/2022	1	19/10/2022	19/10/2022		19/10/2022	19/10/2022
Date analysed	-			19/10/2022	1	19/10/2022	19/10/2022		19/10/2022	19/10/2022
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	<10	<10	0	103	96
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	97	95
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	96	99
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	96	94
Copper-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	97	98
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	94	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	98	95
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	6	6	0	97	93
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	94	94
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	1	2	67	97	89

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	308297-2
Date prepared	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	18/10/2022
Date analysed	-			18/10/2022	1	18/10/2022	18/10/2022		18/10/2022	18/10/2022
pH	pH Units		Inorg-001	[NT]	1	6.2	6.2	0	101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	270	270	0	100	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	45	[NT]		93	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	1	9.2	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	220	[NT]		107	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	<0.001	0	102	100
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.1	<0.1	0	[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	4.7	4.5	4	98	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	4.5	4.5	0	111	108
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	<0.005	0	108	104
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.005	<0.005	0	99	98
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	<0.005	0	107	104

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	308297-2
Date prepared	-			24/10/2022	1	24/10/2022	24/10/2022		24/10/2022	24/10/2022
Date analysed	-			24/10/2022	1	24/10/2022	24/10/2022		24/10/2022	24/10/2022
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	1	<0.05	<0.05	0	85	104

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	308297-2
Date extracted	-			21/10/2022	1	21/10/2022	21/10/2022		21/10/2022	21/10/2022
Date analysed	-			24/10/2022	1	24/10/2022	24/10/2022		24/10/2022	24/10/2022
Clopyralid	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	80	66
MCPP	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	81	70
MCPA	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	79	69
Dichlorprop	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	78	64
Bromoxynil	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	79	67
MCPB	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	1	<1	<1	0	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	1	<1	<1	0	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	1	<1	<1	0	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	1	<2	<2	0	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	1	<1	<1	0	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	1	<1	<1	0	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	1	<1	<1	0	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	71	1	74	67	10	78	69

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Date analysed	-			19/10/2022	[NT]	[NT]	[NT]	[NT]	19/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	115	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	95	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	91	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	95	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	107	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	101	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	89	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	118	[NT]	[NT]	[NT]	[NT]	109	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	113	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	76	[NT]	[NT]	[NT]	[NT]	84	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	135	[NT]	[NT]	[NT]	[NT]	126	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	114	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	114	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	122	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Total metals: no unfiltered, preserved sample was received, therefore analysis was conducted from the unpreserved sample bottle. Note: there is a possibility some elements may be underestimated.

Herbicides analysed by MPL Laboratories. Report No. PDJ1022

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CERTIFICATE OF ANALYSIS 308534

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	Murti Purohit
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.03, SMW WTP Parramatta**
Number of Samples	1 Water
Date samples received	20/10/2022
Date completed instructions received	20/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/10/2022
Date of Issue	28/10/2022

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Results Approved By

Giovanni Agosti, Group Technical Manager
Greta Petzold, Assistant Operation Manager
Liam Timmins, Organic Instruments Team Leader
Phalak Inthakesone, Organics Development Manager, Sydney
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	104
Surrogate toluene-d8	%	106
Surrogate 4-BFB	%	95

SVOC's in water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
Phenol	µg/L	<2
Bis (2-chloroethyl) ether	µg/L	<5
2-Chlorophenol	µg/L	<2
1,3-Dichlorobenzene	µg/L	<2
1,4-Dichlorobenzene	µg/L	<2
2-Methylphenol	µg/L	<2
1,2-Dichlorobenzene	µg/L	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5
3/4-Methylphenol	µg/L	<4
N-nitrosodi-n-propylamine	µg/L	<5
Hexachloroethane	µg/L	<2
Nitrobenzene	µg/L	<5
Isophorone	µg/L	<5
2,4-Dimethylphenol	µg/L	<2
2-Nitrophenol	µg/L	<2
bis (2-Chloroethoxy) methane	µg/L	<5
2,4-Dichlorophenol	µg/L	<2
1,2,4-Trichlorobenzene	µg/L	<2
Naphthalene	µg/L	<2
4-Chloroaniline	µg/L	<5
4-Chloro-3-methylphenol	µg/L	<10
Hexachlorobutadiene	µg/L	<2
2-Methylnaphthalene	µg/L	<2
Hexachlorocyclopentadiene	µg/L	<5
2,4,6-Trichlorophenol	µg/L	<2
2,4,5-Trichlorophenol	µg/L	<2
2-Chloronaphthalene	µg/L	<2
2-Nitroaniline	µg/L	<5
Dimethyl phthalate	µg/L	<10
2,6-Dinitrotoluene	µg/L	<5
Acenaphthylene	µg/L	<2
3-Nitroaniline	µg/L	<5
Acenaphthene	µg/L	<2
2,4-Dinitrophenol	µg/L	<20

SVOC's in water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
4-Nitrophenol	µg/L	<20
Dibenzofuran	µg/L	<5
Diethylphthalate	µg/L	<10
4-Chlorophenylphenylether	µg/L	<5
4-Nitroaniline	µg/L	<5
Fluorene	µg/L	<2
2-methyl-4,6-dinitrophenol	µg/L	<20
Azobenzene	µg/L	<5
4-Bromophenylphenylether	µg/L	<5
Hexachlorobenzene	µg/L	<2
Pentachlorophenol	µg/L	<10
Phenanthrene	µg/L	<2
Anthracene	µg/L	<2
Carbazole	µg/L	<5
Di-n-butylphthalate	µg/L	<10
Fluoranthene	µg/L	<2
Pyrene	µg/L	<2
Butylbenzylphthalate	µg/L	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50
Benzo(a)anthracene	µg/L	<2
Chrysene	µg/L	<2
Di-n-octylphthalate	µg/L	<10
Benzo(b,j+k)fluoranthene	µg/L	<4
Benzo(a)pyrene	µg/L	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2
Dibenzo(a,h)anthracene	µg/L	<2
Benzo(g,h,i)perylene	µg/L	<2
Ethylmethanesulfonate	µg/L	<5
Aniline	µg/L	<5
Pentachloroethane	µg/L	<2
Benzyl alcohol	µg/L	<5
Acetophenone	µg/L	<5
N-nitrosomorpholine	µg/L	<5
N-nitrosopiperidine	µg/L	<5
2,6-Dichlorophenol	µg/L	<2
Hexachloropropene-1	µg/L	<2
N-nitroso-n-butylamine	µg/L	<5

SVOC's in water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Safrole	µg/L	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2
Trans/Cis-iso-safrole	µg/L	<5
1,3-Dinitrobenzene	µg/L	<5
Pentachlorobenzene	µg/L	<2
1-Naphthylamine	µg/L	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2
2-Naphthylamine	µg/L	<5
5-Nitro-o-toluidine	µg/L	<5
Diphenylamine	µg/L	<5
Phenacetin	µg/L	<5
Pentachloronitrobenzene	µg/L	<5
Dinoseb	µg/L	<10
Methapyrilene	µg/L	<10
p-Dimethylaminoazobenzene	µg/L	<5
2-Acetylaminofluorene	µg/L	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2
3-Methylcholanthrene	µg/L	<2
a-BHC	µg/L	<2
b-BHC	µg/L	<2
g-BHC	µg/L	<2
d-BHC	µg/L	<2
Heptachlor	µg/L	<2
Aldrin	µg/L	<2
Heptachlor Epoxide	µg/L	<2
g-Chlordane	µg/L	<2
a-Chlordane	µg/L	<2
Endosulfan I	µg/L	<2
p,p'-DDE	µg/L	<2
Dieldrin	µg/L	<2
Endrin	µg/L	<2
p,p'-DDD	µg/L	<2
Endosulfan II	µg/L	<2
Endrin Aldehyde	µg/L	<2
p,p'-DDT	µg/L	<2
Endosulfan Sulphate	µg/L	<2
Endrin Ketone	µg/L	<2

SVOC's in water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Methoxychlor	µg/L	<2
Dichlorvos	µg/L	<2
Mevinphos	µg/L	<2
Phorate	µg/L	<2
Dimethoate	µg/L	<2
Diazinon (dimpylate)	µg/L	<2
Disulfoton	µg/L	<2
Chloropyriphos-methyl	µg/L	<2
Parathion-methyl	µg/L	<2
Ronnel (fenchlorphos)	µg/L	<2
Fenitrothion	µg/L	<2
Malathion (Maldison)	µg/L	<2
Chloropyriphos	µg/L	<2
Fenthion	µg/L	<2
Parathion (parathion-ethyl)	µg/L	<2
Bromophos Ethyl	µg/L	<2
Methidathion	µg/L	<2
Fenamiphos (Phenamiphos)	µg/L	<2
Ethion	µg/L	<2
Phosalone	µg/L	<2
Azinphos methyl (Guthion)	µg/L	<2
Coumaphos (Co-Ral)	µg/L	<2
Surrogate 2-fluorophenol	%	34
Surrogate Phenol-d_6	%	34
Surrogate Nitrobenzene-d_5	%	95
Surrogate 2-fluorobiphenyl	%	91
Surrogate 2,4,6-Tribromophenol	%	39
Surrogate *p*-Terphenyl-d_{14}	%	101

vTRH(C6-C10)/BTEXN in Water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	104
Surrogate toluene-d8	%	106
Surrogate 4-BFB	%	95

svTRH (C10-C40) in Water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	22/10/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	103

PAHs in Water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
Naphthalene	µg/L	<1
Acenaphthylene	µg/L	<1
Acenaphthene	µg/L	<1
Fluorene	µg/L	<1
Phenanthrene	µg/L	<1
Anthracene	µg/L	<1
Fluoranthene	µg/L	<1
Pyrene	µg/L	<1
Benzo(a)anthracene	µg/L	<1
Chrysene	µg/L	<1
Benzo(b,j+k)fluoranthene	µg/L	<2
Benzo(a)pyrene	µg/L	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1
Dibenzo(a,h)anthracene	µg/L	<1
Benzo(g,h,i)perylene	µg/L	<1
Benzo(a)pyrene TEQ	µg/L	<5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate p-Terphenyl-d14	%	101

Organochlorine Pesticides in Water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
alpha-BHC	µg/L	<0.2
HCB	µg/L	<0.2
beta-BHC	µg/L	<0.2
gamma-BHC	µg/L	<0.2
Heptachlor	µg/L	<0.2
delta-BHC	µg/L	<0.2
Aldrin	µg/L	<0.2
Heptachlor Epoxide	µg/L	<0.2
gamma-Chlordane	µg/L	<0.2
alpha-Chlordane	µg/L	<0.2
Endosulfan I	µg/L	<0.2
pp-DDE	µg/L	<0.2
Dieldrin	µg/L	<0.2
Endrin	µg/L	<0.2
Endosulfan II	µg/L	<0.2
pp-DDD	µg/L	<0.2
Endrin Aldehyde	µg/L	<0.2
pp-DDT	µg/L	<0.2
Endosulfan Sulphate	µg/L	<0.2
Methoxychlor	µg/L	<0.2
Surrogate TCMX	%	98

OP Pesticides in Water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
Dichlorvos	µg/L	<0.2
Dimethoate	µg/L	<0.2
Diazinon	µg/L	<0.2
Chlorpyriphos-methyl	µg/L	<0.2
Ronnel	µg/L	<0.2
Fenitrothion	µg/L	<0.2
Malathion	µg/L	<0.2
Chlorpyriphos	µg/L	<0.2
Parathion	µg/L	<0.2
Bromophos ethyl	µg/L	<0.2
Ethion	µg/L	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2
Surrogate TCMX	%	98

Ion Balance		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date prepared	-	21/10/2022
Date analysed	-	21/10/2022
Calcium - Dissolved	mg/L	8.7
Potassium - Dissolved	mg/L	0.9
Sodium - Dissolved	mg/L	220
Magnesium - Dissolved	mg/L	12
Hardness	$mgCaCO_3/L$	72
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	60
Carbonate Alkalinity as $CaCO_3$	mg/L	<5
Total Alkalinity as $CaCO_3$	mg/L	60
Sulphate, SO4	mg/L	51
Chloride, Cl	mg/L	500
Ionic Balance	%	-18

All metals in water-dissolved		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date prepared	-	24/10/2022
Date analysed	-	24/10/2022
Aluminium-Dissolved	µg/L	10
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Lead-Dissolved	µg/L	<1
Manganese-Dissolved	µg/L	23
Nickel-Dissolved	µg/L	2
Zinc-Dissolved	µg/L	17

Miscellaneous Inorganics		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date prepared	-	20/10/2022
Date analysed	-	20/10/2022
pH	pH Units	6.3
Electrical Conductivity	µS/cm	2,200
Oxidation Reduction Potential*	mV	113
Dissolved Oxygen*	mg/L	8.9
Total Dissolved Solids (grav)	mg/L	1,100
Trivalent Chromium	mg/L	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001
TKN in water	mg/L	<0.1
Total Nitrogen in water	mg/L	29
Nitrate as N in water	mg/L	27.6946000
Nitrite as N in water	mg/L	<0.005
Ammonia as N in water	mg/L	0.006
Phosphate as P in water	mg/L	<0.005

Metals in Waters - Acid extractable		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date prepared	-	25/10/2022
Date analysed	-	26/10/2022
Phosphorus - Total	mg/L	<0.05

Acid Herbicides in Water		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	27/10/2022
Date analysed	-	27/10/2022
Clopyralid	µg/L	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5
4-CPA	µg/L	<0.5
Dicamba	µg/L	<0.5
MCPP	µg/L	<0.5
MCPA	µg/L	<0.5
Dichlorprop	µg/L	<0.5
2,4-D	µg/L	<0.5
Bromoxynil	µg/L	<0.5
Triclopyr	µg/L	<0.5
2,4,5-TP	µg/L	<0.5
2,4,5-T	µg/L	<0.5
MCPB	µg/L	<0.5
Dinoseb	µg/L	<1
2,4-DB	µg/L	<0.5
Ioxynil	µg/L	<1
Picloram	µg/L	<1
Acifluorfen	µg/L	<2
2,4,6-T	µg/L	<0.5
2,6-D	µg/L	<0.5
Fluroxypyr	µg/L	<1
Chloramben	µg/L	<1
Bentazon	µg/L	<1
Surrogate 2.4- DCPA	%	68

PFAS in Waters Extended		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Date prepared	-	21/10/2022
Date analysed	-	21/10/2022
Perfluorobutanesulfonic acid	µg/L	0.04
Perfluoropentanesulfonic acid	µg/L	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02
Perfluorobutanoic acid	µg/L	<0.02
Perfluoropentanoic acid	µg/L	<0.02
Perfluorohexanoic acid	µg/L	0.02
Perfluoroheptanoic acid	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.01
Perfluorononanoic acid	µg/L	<0.01
Perfluorodecanoic acid	µg/L	<0.02
Perfluoroundecanoic acid	µg/L	<0.02
Perfluorododecanoic acid	µg/L	<0.05
Perfluorotridecanoic acid	µg/L	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5
4:2 FTS	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.02
10:2 FTS	µg/L	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	97
Surrogate $^{13}C_2$ *PFOA*	%	110
Extracted ISTD $^{13}C_3$ *PFBS*	%	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	110
Extracted ISTD $^{13}C_4$ *PFOS*	%	106
Extracted ISTD $^{13}C_4$ *PFBA*	%	102

PFAS in Waters Extended		
Our Reference		308534-1
Your Reference	UNITS	PH-BH19
Date Sampled		19/10/2022
Type of sample		Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	100
Extracted ISTD $^{13}C_2$ *PFHxA*	%	106
Extracted ISTD $^{13}C_4$ *PFHpA*	%	106
Extracted ISTD $^{13}C_4$ *PFOA*	%	103
Extracted ISTD $^{13}C_5$ *PFNA*	%	113
Extracted ISTD $^{13}C_2$ *PFDA*	%	115
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	121
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	83
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	93
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	118
Extracted ISTD $^{13}C_8$ *FOSA*	%	103
Extracted ISTD d_3 *N MeFOSA*	%	101
Extracted ISTD d_5 *N EtFOSA*	%	109
Extracted ISTD d_7 *N MeFOSE*	%	103
Extracted ISTD d_9 *N EtFOSE*	%	96
Extracted ISTD d_3 *N MeFOSAA*	%	102
Extracted ISTD d_5 *N EtFOSAA*	%	109
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	0.01
Total Positive PFAS	µg/L	0.08

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate 4-BFB	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	39	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	63	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	67	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	36	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	82	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
Pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	123	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
b-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
g-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	77	[NT]
Aldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	64	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Fenthion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Phosalone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	51	[NT]	[NT]	[NT]	[NT]	56	[NT]
Surrogate Phenol-d_6	%		Org-022/025	34	[NT]	[NT]	[NT]	[NT]	38	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	89	[NT]	[NT]	[NT]	[NT]	91	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	83	[NT]	[NT]	[NT]	[NT]	89	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	70	[NT]	[NT]	[NT]	[NT]	81	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate 4-BFB	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	122	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	122	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-020	109	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	123	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	77	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	64	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: OP Pesticides in Water					Duplicate					Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	92	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: Ion Balance						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	99	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	100	[NT]
Hardness	mg$CaCO_3$/L	3	Metals-020	<3	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	[NT]	[NT]	[NT]	[NT]	95	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: All metals in water-dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Date analysed	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	[NT]	[NT]	[NT]	[NT]	105	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	106	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	[NT]	[NT]	[NT]	[NT]	98	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Miscellaneous Inorganics					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			20/10/2022	1	20/10/2022	20/10/2022		20/10/2022	[NT]
Date analysed	-			20/10/2022	1	20/10/2022	20/10/2022		20/10/2022	[NT]
pH	pH Units		Inorg-001	[NT]	1	6.3	[NT]		101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	2200	[NT]		99	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	113	[NT]		90	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	1	8.9	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	1100	1200	9	82	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	[NT]		94	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	<0.1	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	29	[NT]		102	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	27.6946	[NT]		112	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		109	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.006	[NT]		103	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	<0.005	[NT]		104	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			25/10/2022	[NT]	[NT]	[NT]	[NT]	25/10/2022	[NT]
Date analysed	-			26/10/2022	[NT]	[NT]	[NT]	[NT]	26/10/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	87	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			27/10/2022	[NT]	[NT]	[NT]	[NT]	27/10/2022	[NT]
Date analysed	-			27/10/2022	[NT]	[NT]	[NT]	[NT]	27/10/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	82	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	122	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	86	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	88	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	88	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	115	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	115	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	113	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	119	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	121	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	122	[NT]	[NT]	[NT]	[NT]	117	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	125	[NT]	[NT]	[NT]	[NT]	118	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	131	[NT]	[NT]	[NT]	[NT]	112	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	117	[NT]	[NT]	[NT]	[NT]	114	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	112	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

The mass inbalance may be caused by other ions that have not been measured.

DO
Samples were out of the recommended holding time for this analysis.

Acid Herbicides analysed by Envirolab Services Melbourne. Report No. 34265

Envirolab Services Pty Ltd
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CERTIFICATE OF ANALYSIS 308536

Client Details

Client	Epic Environmental (Sydney) Pty Ltd
Attention	kiu Yeung
Address	Suite 5, Level 9, 189 Kent Street, SYDNEY, NSW, 2000

Sample Details

Your Reference	**SC210108.03, SMW WTP GWMP**
Number of Samples	6 Water
Date samples received	20/10/2022
Date completed instructions received	20/10/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/10/2022
Date of Issue	28/10/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Giovanni Agosti, Group Technical Manager
Kyle Gavrily, Senior Chemist
Nancy Zhang, Laboratory Manager, Sydney
Phalak Inthakesone, Organics Development Manager, Sydney
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	21/10/2022	26/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	26/10/2022	24/10/2022	24/10/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	3	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1

VOCs in water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	104	112	111
Surrogate toluene-d8	%	101	99	100	100
Surrogate 4-BFB	%	98	97	97	97

SVOC's in water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	26/10/2022	26/10/2022	26/10/2022	26/10/2022
Phenol	µg/L	<10	<10	<10	<10
Bis (2-chloroethyl) ether	µg/L	<5	<5	<5	<5
2-Chlorophenol	µg/L	<2	<2	<2	<2
1,3-Dichlorobenzene	µg/L	<2	<2	<2	<2
1,4-Dichlorobenzene	µg/L	<2	<2	<2	<2
2-Methylphenol	µg/L	<2	<2	<2	<2
1,2-Dichlorobenzene	µg/L	<2	<2	<2	<2
bis-(2-Chloroisopropyl) ether	µg/L	<5	<5	<5	<5
3/4-Methylphenol	µg/L	<4	<4	<4	<4
N-nitrosodi-n-propylamine	µg/L	<5	<5	<5	<5
Hexachloroethane	µg/L	<2	<2	<2	<2
Nitrobenzene	µg/L	<5	<5	<5	<5
Isophorone	µg/L	<5	<5	<5	<5
2,4-Dimethylphenol	µg/L	<2	<2	<2	<2
2-Nitrophenol	µg/L	<2	<2	<2	<2
bis (2-Chloroethoxy) methane	µg/L	<5	<5	<5	<5
2,4-Dichlorophenol	µg/L	<2	<2	<2	<2
1,2,4-Trichlorobenzene	µg/L	<2	<2	<2	<2
Naphthalene	µg/L	<2	<2	<2	<2
4-Chloroaniline	µg/L	<5	<5	<5	<5
4-Chloro-3-methylphenol	µg/L	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<2	<2	<2	<2
2-Methylnaphthalene	µg/L	<2	<2	<2	<2
Hexachlorocyclopentadiene	µg/L	<5	<5	<5	<5
2,4,6-Trichlorophenol	µg/L	<2	<2	<2	<2
2,4,5-Trichlorophenol	µg/L	<2	<2	<2	<2
2-Chloronaphthalene	µg/L	<2	<2	<2	<2
2-Nitroaniline	µg/L	<5	<5	<5	<5
Dimethyl phthalate	µg/L	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<5	<5	<5	<5
Acenaphthylene	µg/L	<2	<2	<2	<2
3-Nitroaniline	µg/L	<5	<5	<5	<5
Acenaphthene	µg/L	<2	<2	<2	<2
2,4-Dinitrophenol	µg/L	<20	<20	<20	<20

SVOC's in water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
4-Nitrophenol	µg/L	<100	<100	<100	<100
Dibenzofuran	µg/L	<5	<5	<5	<5
Diethylphthalate	µg/L	<10	<10	<10	<10
4-Chlorophenylphenylether	µg/L	<5	<5	<5	<5
4-Nitroaniline	µg/L	<5	<5	<5	<5
Fluorene	µg/L	<2	<2	<2	<2
2-methyl-4,6-dinitrophenol	µg/L	<20	<20	<20	<20
Azobenzene	µg/L	<5	<5	<5	<5
4-Bromophenylphenylether	µg/L	<5	<5	<5	<5
Hexachlorobenzene	µg/L	<2	<2	<2	<2
Pentachlorophenol	µg/L	<10	<10	<10	<10
Phenanthrene	µg/L	<2	<2	<2	<2
Anthracene	µg/L	<2	<2	<2	<2
Carbazole	µg/L	<5	<5	<5	<5
Di-n-butylphthalate	µg/L	<10	<10	<10	<10
Fluoranthene	µg/L	<2	<2	<2	<2
Pyrene	µg/L	<2	<2	<2	<2
Butylbenzylphthalate	µg/L	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	µg/L	<50	<50	<50	<50
Benzo(a)anthracene	µg/L	<2	<2	<2	<2
Chrysene	µg/L	<2	<2	<2	<2
Di-n-octylphthalate	µg/L	<10	<10	<10	<10
Benzo(b,j+k)fluoranthene	µg/L	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	<2	<2	<2	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2	<2	<2	<2
Dibenzo(a,h)anthracene	µg/L	<2	<2	<2	<2
Benzo(g,h,i)perylene	µg/L	<2	<2	<2	<2
Ethylmethanesulfonate	µg/L	<5	<5	<5	<5
Aniline	µg/L	<5	<5	<5	<5
Pentachloroethane	µg/L	<2	<2	<2	<2
Benzyl alcohol	µg/L	<5	<5	<5	<5
Acetophenone	µg/L	<5	<5	<5	<5
N-nitrosomorpholine	µg/L	<5	<5	<5	<5
N-nitrosopiperidine	µg/L	<5	<5	<5	<5
2,6-Dichlorophenol	µg/L	<2	<2	<2	<2
Hexachloropropene-1	µg/L	<2	<2	<2	<2
N-nitroso-n-butylamine	µg/L	<5	<5	<5	<5

SVOC's in water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Safrole	µg/L	<5	<5	<5	<5
1,2,4,5-Tetrachlorobenzene	µg/L	<2	<2	<2	<2
Trans/Cis-iso-safrole	µg/L	<5	<5	<5	<5
1,3-Dinitrobenzene	µg/L	<5	<5	<5	<5
Pentachlorobenzene	µg/L	<2	<2	<2	<2
1-Naphthylamine	µg/L	<5	<5	<5	<5
2,3,4,6-Tetrachlorophenol	µg/L	<2	<2	<2	<2
2-Naphthylamine	µg/L	<5	<5	<5	<5
5-Nitro-o-toluidine	µg/L	<5	<5	<5	<5
Diphenylamine	µg/L	<5	<5	<5	<5
Phenacetin	µg/L	<5	<5	<5	<5
Pentachloronitrobenzene	µg/L	<5	<5	<5	<5
Dinoseb	µg/L	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<5	<5	<5	<5
2-Acetylaminofluorene	µg/L	<2	<2	<2	<2
7,12-Dimethylbenz(a)anthracene	µg/L	<2	<2	<2	<2
3-Methylcholanthrene	µg/L	<2	<2	<2	<2
a-BHC	µg/L	<2	<2	<2	<2
b-BHC	µg/L	<2	<2	<2	<2
g-BHC	µg/L	<2	<2	<2	<2
d-BHC	µg/L	<2	<2	<2	<2
Heptachlor	µg/L	<2	<2	<2	<2
Aldrin	µg/L	<2	<2	<2	<2
Heptachlor Epoxide	µg/L	<2	<2	<2	<2
g-Chlordane	µg/L	<2	<2	<2	<2
a-Chlordane	µg/L	<2	<2	<2	<2
Endosulfan I	µg/L	<2	<2	<2	<2
p,p'-DDE	µg/L	<2	<2	<2	<2
Dieldrin	µg/L	<2	<2	<2	<2
Endrin	µg/L	<2	<2	<2	<2
p,p'-DDD	µg/L	<2	<2	<2	<2
Endosulfan II	µg/L	<2	<2	<2	<2
Endrin Aldehyde	µg/L	<2	<2	<2	<2
p,p'-DDT	µg/L	<2	<2	<2	<2
Endosulfan Sulphate	µg/L	<2	<2	<2	<2
Endrin Ketone	µg/L	<2	<2	<2	<2

SVOC's in water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Methoxychlor	µg/L	<2	<2	<2	<2
Dichlorvos	µg/L	<2	<2	<2	<2
Mevinphos	µg/L	<2	<2	<2	<2
Phorate	µg/L	<2	<2	<2	<2
Dimethoate	µg/L	<2	<2	<2	<2
Diazinon (dimpylate)	µg/L	<2	<2	<2	<2
Disulfoton	µg/L	<2	<2	<2	<2
Chloropyriphos-methyl	µg/L	<2	<2	<2	<2
Parathion-methyl	µg/L	<2	<2	<2	<2
Ronnel (fenchlorphos)	µg/L	<2	<2	<2	<2
Fenitrothion	µg/L	<2	<2	<2	<2
Malathion (Maldison)	µg/L	<2	<2	<2	<2
Chloropyriphos	µg/L	<2	<2	<2	<2
Fenthion	µg/L	<2	<2	<2	<2
Parathion (parathion-ethyl)	µg/L	<2	<2	<2	<2
Bromophos Ethyl	µg/L	<2	<2	<2	<2
Methidathion	µg/L	<2	<2	<2	<2
Fenamiphos (Phenamiphos)	µg/L	<2	<2	<2	<2
Ethion	µg/L	<2	<2	<2	<2
Phosalone	µg/L	<2	<2	<2	<2
Azinphos methyl (Guthion)	µg/L	<2	<2	<2	<2
Coumaphos (Co-Ral)	µg/L	<2	<2	<2	<2
Surrogate 2-fluorophenol	%	47	56	53	47
Surrogate Phenol-d_6	%	32	39	35	33
Surrogate Nitrobenzene-d_5	%	81	85	83	71
Surrogate 2-fluorobiphenyl	%	76	79	79	68
Surrogate 2,4,6-Tribromophenol	%	67	61	60	63
Surrogate *p*-Terphenyl-d_{14}	%	82	95	90	80

vTRH(C6-C10)/BTEXN in Water						
Our Reference		308536-1	308536-2	308536-3	308536-4	308536-5
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W	TS6
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	21/10/2022	26/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	24/10/2022	26/10/2022	24/10/2022	24/10/2022	24/10/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	[NA]
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	[NA]
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	[NA]
Benzene	µg/L	<1	<1	<1	<1	102%
Toluene	µg/L	<1	<1	<1	<1	103%
Ethylbenzene	µg/L	<1	<1	<1	<1	99%
m+p-xylene	µg/L	<2	<2	<2	<2	100%
o-xylene	µg/L	<1	<1	<1	<1	101%
Naphthalene	µg/L	<1	<1	<1	<1	[NA]
Surrogate Dibromofluoromethane	%	108	104	112	111	109
Surrogate toluene-d8	%	101	99	100	100	101
Surrogate 4-BFB	%	98	97	97	97	99

vTRH(C6-C10)/BTEXN in Water		
Our Reference		308536-6
Your Reference	UNITS	TB6
Date Sampled		19/10/2022
Type of sample		Water
Date extracted	-	21/10/2022
Date analysed	-	24/10/2022
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	110
Surrogate toluene-d8	%	100
Surrogate 4-BFB	%	97

svTRH (C10-C40) in Water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	25/10/2022	25/10/2022	25/10/2022	25/10/2022
TRH C_{10} - C_{14}	µg/L	77	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	490	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	620	100	<100	<100
Total +ve TRH (C10-C36)	µg/L	1,200	100	<50	<50
TRH >C_{10} - C_{16}	µg/L	99	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	99	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	910	<100	<100	110
TRH >C_{34} - C_{40}	µg/L	590	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	1,600	<50	<50	110
Surrogate o-Terphenyl	%	73	80	84	65

PAHs in Water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	27/10/2022	27/10/2022	27/10/2022	27/10/2022
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	82	90	85	76

Organochlorine Pesticides in Water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	27/10/2022	27/10/2022	27/10/2022	27/10/2022
alpha-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
HCB	µg/L	<0.2	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	80	88	85	71

OP Pesticides in Water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	24/10/2022	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	27/10/2022	27/10/2022	27/10/2022	27/10/2022
Dichlorvos	µg/L	<0.2	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2	<0.2
Diazinon	µg/L	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2	<0.2
Surrogate TCMX	%	80	88	85	71

Ion Balance					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Calcium - Dissolved	mg/L	6.4	<0.5	5	6.0
Potassium - Dissolved	mg/L	1	<0.5	3	2
Sodium - Dissolved	mg/L	2	<0.5	72	2
Magnesium - Dissolved	mg/L	<0.5	<0.5	7.6	<0.5
Hardness	mgCaCO 3 /L	16	<3	43	15
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	<5	<5	<5	<5
Bicarbonate Alkalinity as $CaCO_3$	mg/L	23	<5	62	23
Carbonate Alkalinity as $CaCO_3$	mg/L	<5	<5	<5	<5
Total Alkalinity as $CaCO_3$	mg/L	23	<5	62	23
Sulphate, SO4	mg/L	<1	<1	39	1
Chloride, Cl	mg/L	2	<1	42	1
Ionic Balance	%	-10	N/A	11	-11

All metals in water-dissolved				
Our Reference		308536-1	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water
Date prepared	-	24/10/2022	24/10/2022	24/10/2022
Date analysed	-	24/10/2022	24/10/2022	24/10/2022
Aluminium-Dissolved	µg/L	50	<10	40
Arsenic-Dissolved	µg/L	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	2	25	12
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Lead-Dissolved	µg/L	<1	<1	<1
Manganese-Dissolved	µg/L	53	58	20
Nickel-Dissolved	µg/L	<1	3	2
Zinc-Dissolved	µg/L	30	15	31

Miscellaneous Inorganics				
Our Reference		308536-1	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water
Date prepared	-	20/10/2022	20/10/2022	20/10/2022
Date analysed	-	20/10/2022	20/10/2022	20/10/2022
pH	pH Units	6.7	6.5	6.8
Electrical Conductivity	µS/cm	51	440	49
Oxidation Reduction Potential*	mV	104	134	123
Dissolved Oxygen*	mg/L	9.0	9.5	9.4
Total Dissolved Solids (grav)	mg/L	31	240	30
Trivalent Chromium	mg/L	<0.005	<0.005	<0.005
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	<0.001	<0.001	<0.001
TKN in water	mg/L	0.5	<0.1	0.2
Total Nitrogen in water	mg/L	0.6	8.9	0.2
Nitrate as N in water	mg/L	0.092	8.8	0.02
Nitrite as N in water	mg/L	<0.005	0.049	<0.005
Ammonia as N in water	mg/L	0.22	<0.005	0.009
Phosphate as P in water	mg/L	0.007	<0.005	0.01

Metals in Waters - Acid extractable				
Our Reference		308536-1	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water
Date prepared	-	25/10/2022	25/10/2022	25/10/2022
Date analysed	-	26/10/2022	26/10/2022	26/10/2022
Phosphorus - Total	mg/L	0.06	<0.05	<0.05

Acid Herbicides in Water					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date extracted	-	26/10/2022	26/10/2022	27/10/2022	26/10/2022
Date analysed	-	27/10/2022	27/10/2022	27/10/2022	27/10/2022
Clopyralid	µg/L	<0.5	<0.5	<0.5	<0.5
3,5-Dichlorobenzoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
o-chlorophenoxy acetic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4-CPA	µg/L	<0.5	<0.5	<0.5	<0.5
Dicamba	µg/L	<0.5	<0.5	<0.5	<0.5
MCPP	µg/L	<0.5	<0.5	<0.5	<0.5
MCPA	µg/L	<0.5	<0.5	<0.5	<0.5
Dichlorprop	µg/L	<0.5	<0.5	<0.5	<0.5
2,4-D	µg/L	<0.5	<0.5	<0.5	<0.5
Bromoxynil	µg/L	<0.5	<0.5	<0.5	<0.5
Triclopyr	µg/L	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	µg/L	<0.5	<0.5	<0.5	<0.5
2,4,5-T	µg/L	<0.5	<0.5	<0.5	<0.5
MCPB	µg/L	<0.5	<0.5	<0.5	<0.5
Dinoseb	µg/L	<1	<1	<1	<1
2,4-DB	µg/L	<0.5	<0.5	<0.5	<0.5
Ioxynil	µg/L	<1	<1	<1	<1
Picloram	µg/L	<1	<1	<1	<1
Acifluorfen	µg/L	<2	<2	<2	<2
2,4,6-T	µg/L	<0.5	<0.5	<0.5	<0.5
2,6-D	µg/L	<0.5	<0.5	<0.5	<0.5
Fluroxypyr	µg/L	<1	<1	<1	<1
Chloramben	µg/L	<1	<1	<1	<1
Bentazon	µg/L	<1	<1	<1	<1
Surrogate 2.4- DCPA	%	76	76	78	82

PFAS in Waters Extended					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Date analysed	-	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	0.03	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	0.05	<0.02
Perfluorohexanoic acid	µg/L	0.06	<0.01	0.05	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	0.04	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.06	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.38	<0.01	<0.01	0.06
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ PFOS	%	98	98	98	97
Surrogate $^{13}C_2$ PFOA	%	105	105	100	101
Extracted ISTD $^{13}C_3$ PFBS	%	106	103	108	109
Extracted ISTD $^{18}O_2$ PFHxS	%	107	107	111	111
Extracted ISTD $^{13}C_4$ PFOS	%	109	107	107	105
Extracted ISTD $^{13}C_4$ PFBA	%	97	107	104	97

PFAS in Waters Extended					
Our Reference		308536-1	308536-2	308536-3	308536-4
Your Reference	UNITS	SMW_BH002_W	R6	SMW_BH004_S	SMW_BH004_W
Date Sampled		19/10/2022	19/10/2022	19/10/2022	19/10/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	102	104	103	108
Extracted ISTD $^{13}C_2$ *PFHxA*	%	108	106	105	104
Extracted ISTD $^{13}C_4$ *PFHpA*	%	106	106	103	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	106	106	109
Extracted ISTD $^{13}C_5$ *PFNA*	%	115	115	115	114
Extracted ISTD $^{13}C_2$ *PFDA*	%	120	117	117	116
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	123	122	118	120
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	113	109	112	111
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	91	82	87	84
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	135	113	117	129
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	116	108	110	119
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	151	124	130	135
Extracted ISTD $^{13}C_8$ *FOSA*	%	80	104	103	90
Extracted ISTD d_3 *N MeFOSA*	%	100	98	103	100
Extracted ISTD d_5 *N EtFOSA*	%	96	108	107	100
Extracted ISTD d_7 *N MeFOSE*	%	99	104	100	102
Extracted ISTD d_9 *N EtFOSE*	%	89	97	96	92
Extracted ISTD d_3 *N MeFOSAA*	%	107	119	114	112
Extracted ISTD d_5 *N EtFOSAA*	%	126	118	119	124
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.04	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.09	<0.01
Total Positive PFAS	µg/L	0.43	<0.01	0.23	0.06

Method ID	Methodology Summary
Ext-054	Analysed by MPL Envirolab
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-035	Analysed using an electrode. Please note that the results for water analyses are indicative only, samples are ideally analysed on collection.
Inorg-040	The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 15% ie total anions = total cations +/-15%.
Inorg-055	Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055	Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-055/062/127	Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence.
Inorg-057	Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction.
Inorg-060	Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction.
Inorg-062	TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx).
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Inorg-112	Dissolved Oxygen using membrane electrode. Note this analysis should ideally be carried out immediately after sampling.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	[NT]
Date extracted	-			21/10/2022	3	21/10/2022	26/10/2022		21/10/2022	[NT]
Date analysed	-			24/10/2022	3	24/10/2022	26/10/2022		24/10/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	3	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	3	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	3	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	3	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	3	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	3	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	3	<1	<1	0	104	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	3	<1	<1	0	104	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	3	<1	<1	0	100	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	3	<1	<1	0	84	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	3	<1	<1	0	122	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	3	<1	<1	0	74	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	3	<1	<1	0	68	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	3	3	3	0	102	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	3	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	[NT]
o-xylene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	3	112	104	7	105	[NT]
Surrogate toluene-d8	%		Org-023	99	3	100	99	1	107	[NT]
Surrogate 4-BFB	%		Org-023	99	3	97	97	0	104	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Date analysed	-			26/10/2022	[NT]	[NT]	[NT]	[NT]	26/10/2022	[NT]
Phenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	36	[NT]
Bis (2-chloroethyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	77	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	69	[NT]
2-Methylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	63	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis-(2-Chloroisopropyl) ether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosodi-n-propylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bis (2-Chloroethoxy) methane	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
4-Chloroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylnaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethyl phthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	86	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
2,4-Dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzofuran	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diethylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
4-Nitroaniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	99	[NT]
2-methyl-4,6-dinitrophenol	µg/L	20	Org-022/025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenylphenylether	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	128	[NT]
Anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-butylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	121	[NT]
Pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	131	[NT]
Butylbenzylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl) phthalate	µg/L	50	Org-022/025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	107	[NT]
Di-n-octylphthalate	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	68	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylmethanesulfonate	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aniline	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl alcohol	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Hexachloropropene-1	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-Tetrachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans/Cis-iso-safrole	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
2-Naphthylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Acetylaminofluorene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Methylcholanthrene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	82	[NT]
b-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	82	[NT]
g-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	69	[NT]
Aldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	111	[NT]
Heptachlor Epoxide	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
g-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	111	[NT]
Dieldrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
Endrin	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDD	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	94	[NT]
Endosulfan II	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	74	[NT]
Endrin Ketone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	80	[NT]
Mevinphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon (dimpylate)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloropyriphos-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOC's in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Ronnel (fenchlorphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	73	[NT]
Fenitrothion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Malathion (Maldison)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	83	[NT]
Chloropyriphos	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Fenthion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion (parathion-ethyl)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromophos Ethyl	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos (Phenamiphos)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	76	[NT]
Phosalone	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos methyl (Guthion)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos (Co-Ral)	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Nitrobenzene-d_5	%		Org-022/025	88	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	81	[NT]	[NT]	[NT]	[NT]	82	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-022/025	[NT]	[NT]	[NT]	[NT]	[NT]	72	[NT]
Surrogate *p*-Terphenyl-d_{14}	%		Org-022/025	101	[NT]	[NT]	[NT]	[NT]	105	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	[NT]
Date extracted	-			21/10/2022	3	21/10/2022	26/10/2022		21/10/2022	[NT]
Date analysed	-			24/10/2022	3	24/10/2022	26/10/2022		24/10/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	3	<10	<10	0	102	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	3	<10	<10	0	102	[NT]
Benzene	µg/L	1	Org-023	<1	3	<1	<1	0	102	[NT]
Toluene	µg/L	1	Org-023	<1	3	<1	<1	0	107	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	3	<1	<1	0	100	[NT]
m+p-xylene	µg/L	2	Org-023	<2	3	<2	<2	0	101	[NT]
o-xylene	µg/L	1	Org-023	<1	3	<1	<1	0	101	[NT]
Naphthalene	µg/L	1	Org-023	<1	3	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	103	3	112	104	7	105	[NT]
Surrogate toluene-d8	%		Org-023	99	3	100	99	1	107	[NT]
Surrogate 4-BFB	%		Org-023	99	3	97	97	0	104	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Date analysed	-			25/10/2022	[NT]	[NT]	[NT]	[NT]	25/10/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	89	[NT]	[NT]	[NT]	[NT]	115	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Date analysed	-			27/10/2022	[NT]	[NT]	[NT]	[NT]	27/10/2022	[NT]
Naphthalene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Acenaphthylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Fluorene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Phenanthrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	122	[NT]
Anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	127	[NT]
Benzo(a)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-022/025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-022/025	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	97	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Organochlorine Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Date analysed	-			27/10/2022	[NT]	[NT]	[NT]	[NT]	27/10/2022	[NT]
alpha-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
HCB	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
gamma-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	75	[NT]
delta-BHC	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	98	[NT]
gamma-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Dieldrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Endrin	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan II	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	74	[NT]
Endrin Aldehyde	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Methoxychlor	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	93	[NT]	[NT]	[NT]	[NT]	92	[NT]

QUALITY CONTROL: OP Pesticides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			24/10/2022	[NT]	[NT]	[NT]	[NT]	24/10/2022	[NT]
Date analysed	-			27/10/2022	[NT]	[NT]	[NT]	[NT]	27/10/2022	[NT]
Dichlorvos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	85	[NT]
Dimethoate	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	81	[NT]
Fenitrothion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Malathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	89	[NT]
Chlorpyriphos	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Parathion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	64	[NT]
Bromophos ethyl	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	78	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	93	[NT]	[NT]	[NT]	[NT]	92	[NT]

QUALITY CONTROL: Ion Balance					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			21/10/2022	1	21/10/2022	21/10/2022		21/10/2022	[NT]
Date analysed	-			21/10/2022	1	21/10/2022	21/10/2022		21/10/2022	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	6.4	6.2	3	99	[NT]
Potassium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	1	1	0	96	[NT]
Sodium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	2	2	0	96	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	1	<0.5	<0.5	0	100	[NT]
Hardness	$mgCaCO_3/L$	3	Metals-020	[NT]	1	16	15	6	[NT]	[NT]
Hydroxide Alkalinity (OH^-) as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Bicarbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	23	[NT]		[NT]	[NT]
Carbonate Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	<5	[NT]		[NT]	[NT]
Total Alkalinity as $CaCO_3$	mg/L	5	Inorg-006	<5	1	23	[NT]		104	[NT]
Sulphate, SO4	mg/L	1	Inorg-081	<1	1	<1	[NT]		98	[NT]
Chloride, Cl	mg/L	1	Inorg-081	<1	1	2	[NT]		98	[NT]
Ionic Balance	%		Inorg-040	[NT]	1	-10	[NT]		[NT]	[NT]

QUALITY CONTROL: All metals in water-dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date prepared	-			24/10/2022	1	24/10/2022	24/10/2022		24/10/2022	[NT]
Date analysed	-			24/10/2022	1	24/10/2022	24/10/2022		24/10/2022	[NT]
Aluminium-Dissolved	µg/L	10	Metals-022	<10	1	50	[NT]		89	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		94	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	[NT]		96	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		91	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	2	[NT]		94	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	107	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		100	[NT]
Manganese-Dissolved	µg/L	5	Metals-022	<5	1	53	[NT]		90	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	[NT]		92	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	30	[NT]		89	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			20/10/2022	1	20/10/2022	20/10/2022		20/10/2022	[NT]
Date analysed	-			20/10/2022	1	20/10/2022	20/10/2022		20/10/2022	[NT]
pH	pH Units		Inorg-001	[NT]	1	6.7	[NT]		101	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	51	[NT]		99	[NT]
Oxidation Reduction Potential*	mV		Inorg-035	[NT]	1	104	[NT]		90	[NT]
Dissolved Oxygen*	mg/L	0.1	Inorg-112	<0.1	1	9.0	[NT]		[NT]	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	1	31	[NT]		82	[NT]
Hexavalent Chromium, Cr^{6+} Low Level	mg/L	0.001	Inorg-024	<0.001	1	<0.001	[NT]		97	[NT]
TKN in water	mg/L	0.1	Inorg-062	<0.1	1	0.5	[NT]		[NT]	[NT]
Total Nitrogen in water	mg/L	0.1	Inorg-055/062/127	<0.1	1	0.6	0.7	15	88	[NT]
Nitrate as N in water	mg/L	0.005	Inorg-055	<0.005	1	0.092	[NT]		112	[NT]
Nitrite as N in water	mg/L	0.005	Inorg-055	<0.005	1	<0.005	[NT]		109	[NT]
Ammonia as N in water	mg/L	0.005	Inorg-057	<0.005	1	0.22	[NT]		103	[NT]
Phosphate as P in water	mg/L	0.005	Inorg-060	<0.005	1	0.007	[NT]		104	[NT]

QUALITY CONTROL: Metals in Waters - Acid extractable					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			25/10/2022	[NT]	[NT]	[NT]	[NT]	25/10/2022	[NT]
Date analysed	-			26/10/2022	[NT]	[NT]	[NT]	[NT]	26/10/2022	[NT]
Phosphorus - Total	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	87	[NT]

QUALITY CONTROL: Acid Herbicides in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			26/10/2022	[NT]	[NT]	[NT]	[NT]	26/10/2022	[NT]
Date analysed	-			27/10/2022	[NT]	[NT]	[NT]	[NT]	27/10/2022	[NT]
Clopyralid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	94	[NT]
3,5-Dichlorobenzoic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-chlorophenoxy acetic acid	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-CPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dicamba	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
MCPA	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorprop	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	92	[NT]
Bromoxynil	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Triclopyr	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-TP	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	110	[NT]
MCPB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-DB	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ioxynil	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Picloram	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acifluorfen	µg/L	2	Ext-054	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-T	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-D	µg/L	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluroxypyr	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloramben	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bentazon	µg/L	1	Ext-054	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2.4- DCPA	%		Ext-054	78	[NT]	[NT]	[NT]	[NT]	64	[NT]

QUALITY CONTROL: PFAS in Waters Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Date analysed	-			21/10/2022	[NT]	[NT]	[NT]	[NT]	21/10/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	88	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	88	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	115	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	115	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	113	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	119	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	100	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	109	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	121	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	122	[NT]	[NT]	[NT]	[NT]	117	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	125	[NT]	[NT]	[NT]	[NT]	118	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	116	[NT]	[NT]	[NT]	[NT]	107	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	131	[NT]	[NT]	[NT]	[NT]	112	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	112	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	105	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PFAS in Waters Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	117	[NT]	[NT]	[NT]	[NT]	114	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	112	[NT]

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Total Dissolved solid #1 and #3 reported by calc. Ec less than 100

Acid Herbicides analysed by Envirolab Melbourne. Report No. 34207 (Sample #1, 2 & 4) & 34264.

SVOC's in water - The PQLs for 308536-1-4 has been raised due to the low spike recoveries. This may reflect other samples where similar in matrix and similar analytical interferences occur.

DO
Samples were out of the recommended holding time for this analysis.

APPENDIX G – CALIBRATION CERTIFICATES

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 09K100887

Air-Met Scientific Pty Ltd
1300 137 067

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

Certificate of Calibration

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

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		381241	pH 7.03
2. pH 4.00		pH 4.00		389384	pH 4.06
3. mV		238.68mV		390802/393728	238.6mV
4. EC		2.76mS		385041	2.75mS
5. D.O		0.00%		379624	0.05%
6. Temp		21.7°C		MultiTherm	20.6°C

Calibrated by: **Lebelle Chee**

Calibration date: **4/10/2022**

Next calibration due: **3/11/2022**

12/07/2022

Multi Parameter Water Meter

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 20M101180

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

Certificate of Calibration

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

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
2. pH 7.00		pH 7.00		381241	pH 7.02
3. pH 4.00		pH 4.00		389384	pH 4.01
4. mV		242.64mV		385070/387761	242.5mV
5. EC		2.76mS		385041	242.50mS
6. D.O		0ppm		11343	0.01ppm
7. Temp		20.0°C		MultiTherm	20.2°C

Calibrated by: Lebelle Chee

Calibration date: 12/07/2022

Next calibration due: 11/08/2022