Factual Groundwater Monitoring Report - Round 1

Gamuda
Western Tunnelling Package
Sydney
SC210108.03
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1 EXECUTIVE SUMMARY

Epic Environmental (Epic) has undertaken a project wide groundwater monitoring program across the Sydney Metro West – Western Tunnelling Package (WTP). This factual groundwater monitoring report was presented as a standalone report and documented the pre-construction groundwater conditions along the WTP corridor. This report forms the first groundwater monitoring event of the groundwater monitoring program (GMP) to provide the baseline results at the beginning of the construction phase.

All information and results included in this report are based on the groundwater related works completed between July and August 2022, in accordance with the relevant Conditions of Approval, the Project Construction Groundwater Monitoring Program (i.e., SMWSTWTP-GLO-1NL-EN-PRG-000002), and scoping documentations provided by Sydney Metro Authority and partners.

Groundwater sampling and water level gauging were conducted from groundwater monitoring wells nominated by Sydney Metro Technical Advisor. Additional boreholes and replacement bores were developed and monitored in response to additional site investigations.

Works conducted during the July 2022 (baseline) monitoring event included: Sampling at twenty-one (21) locations along the project alignment. and groundwater level was measurement at twenty-six (26) groundwater monitoring bores along the project alignment.

The following exceedances assessment criteria were noted:

- The field pH was slightly acidic to neutral (pH between 4.5 – 7) from most of the groundwater monitoring bores
- Ammonia exceeded the ANZG (2018) 95% Ecosystem protection values at multiple bores
- Nitrogen (Total) was exceeded ANZECC (2000) DGVs for estuaries at multiple bores
- Dissolved copper, nickel and zinc concentrations exceeded the ANZG (2018) 95% ecosystem values at multiple locations
- PFOS was detected in the following bores exceeding the PFAS NEMP (2020) Interim Marine Water 99% Ecosystem protection at five monitoring bores.
- Chlorobenzene exceeding ANZG (2018) 95% Ecosystem protection values were identified at SMW_WTP_BH25_s, located at the north of the speedway in Clyde.
- SMW_ENV294 and SMW_ENV295 (northeast corner of Westmead construction site) reported isopropylbenzene in exceedance of the ANZG (2018) 95% Ecosystem protection values.

2 INTRODUCTION

2.1 Project 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.

Gamuda Australia Laing O'Rourke Consortium (GLC) has recently been awarded the Western Tunnelling contract to deliver nine kilometres of twin metro rail tunnels between Sydney Olympic Park and Westmead (Figure A1). The Western Tunnelling Package (herein referred to as '**the Project**'), along with excavation of the twin nine-kilometre tunnels includes:

- Westmead Station box excavation, including temporary support, stub tunnels, partially mined station cavern and crossover cavern including permanent lining and support
- Parramatta Station, including excavation of station box and associated support
- Clyde Maintenance and Stabling Facility (MSF), including permanent dive structure, portal, spur running tunnels, spur tunnel junction cavern, bulk earthworks, civil structures, utilities corridor, road crossing and creek diversion
- Rosehill Services Facility, including shaft excavation, permanent lining, and lateral support
- A precast segment manufacturing facility at Eastern Creek (subject to a separate approval and therefore not covered in this WPIA)
- Demolition and site clearance works at the following Construction Sites:
    - Westmead metro station construction site
    - Parramatta metro station construction site
    - Clyde Maintenance and Stabling Facility (MSF)

2.2 Summary of Potential Environmental Impacts – Groundwater

2.2.1 Construction

Potential groundwater and geology impacts that could arise during construction are primarily related to tunnelling and underground excavations and include:

- 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.

Potential impacts on groundwater dependent ecosystems would be considered as part of the biodiversity assessment. The tunnels would be lined to prevent significant volumes of groundwater ingress. Therefore, tunnel construction is anticipated to cause only a short-term disruption to groundwater levels as the system should adjust back to its natural state once excavation has passed and the permanent tunnel lining is installed. Also, cavern stations and cut-and-cover stations in some locations would be tanked to prevent significant volumes of groundwater ingress. Where station excavations are not tanked, this would result in drawdown during construction depending on site-specific conditions, and the interaction of recharge sources and drainage measures. The generally low hydraulic conductivity of the Mittagong Formation, Hawkesbury Sandstone and Ashfield Shale geological units indicates the extent of groundwater drawdown may be limited by relatively low discharge rates compared to recharge sources.

2.2.2 Operation

Potential hydrogeological impacts that could arise during operation include:

- Ongoing groundwater drawdown/lowering of the water table due to station excavations, where untanked stations are proposed (as discussed previously, the low hydraulic conductivity of geological units in the area indicates the extent of groundwater drawdown may be limited by relatively low discharge rates compared to recharge sources).
- Impacts on groundwater users (if present) due to reduced groundwater yields as a result of groundwater drawdown.

2.2.3 Environmental Impacts Summary

A review of the environmental impacts relevant to groundwater is included in Section 6 of the Gamuda Groundwater Monitoring Program (Gamuda, 2022). A summary overview of the key geological and hydrogeological conditions relevant to design and implementation of the groundwater monitoring program is summarized in Table 1 below.

Table 1. Characteristics of potential impacts relevant to groundwater from construction stage activities

Location	Drawdown	Contamination
Westmead	• Groundwater drawdown associated with excavations potential to impact GDEs • One groundwater industrial supply bore within predicted radius of drawdown • Drawdown impacts on settlement considered to be limited due to absence of Quaternary alluvium and unconsolidated sediments	• Migration of groundwater contamination as a result of drawdown (further detail provided in HIR) • Groundwater contamination resulting from site activities
Parramatta	• Groundwater drawdown associated with excavations potential to impact GDEs • Drawdown impacts on settlement considered to be limited due to control measures to be implemented including diaphragm wall structures extending below final excavation level nominated by SM	• Migration of groundwater contamination as a result of drawdown (further detail provided in HIR) • Groundwater contamination resulting from site activities
Clyde	• Eleven groundwater monitoring bores within predicted radius of drawdown • Drawdown impacts on settlement considered to be limited due to control measures to be implemented including tanked structures and cut-off walls.	• Migration of groundwater contamination as a result of drawdown (further detail provided in HIR) • Groundwater contamination resulting from site activities
Rosehill	• Drawdown impacts on settlement considered to be limited due to control measures to be implemented including diaphragm wall structures extending below final excavation level and Rosehill's base being permanently drained.	• Migration of groundwater contamination as a result of drawdown (further detail provided in HIR) • Groundwater contamination resulting from site activities
Sydney Olympic Park	• Groundwater drawdown associated with excavations potential to impact GDEs • Drawdown impacts on settlement considered to be limited due to tunnelling methodology (double shield TBM), refer to Section 8 in Gamuda Groundwater Monitoring Program (Gamuda, 2022) for further details.	• Migration of leachate to groundwater from existing waste containment structures as a result of construction (e.g., drawdown / vibration) • Migration of contaminated groundwater associated with historic impacts around Sydney Olympic Park into tunnels • Groundwater contamination from leaks and spills within tunnels (contamination incidents). • Groundwater contamination of Quaternary or Mesozoic sediments from migration of leachate or impacted groundwater.

2.3 Project Requirements

2.3.1 Conditions of Approval

Sydney Metro West – Westmead to The Bays Concept and Stage 1 was subject to environmental impact assessment under the NSW Environmental Planning and Assessment Act 1979 (EPA Act). It was also declared a Critical State Significant Infrastructure (CSSI) by the Minister for Planning & Public Spaces (the Minister). An Environmental Impact Statement (EIS) has been prepared under Division 5.2 of the EPA Act and in accordance with Part 3 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000. Following exhibition of the EIS, an Amendment Report and Submissions Report were also prepared. After an assessment was carried out, the Minister determined that the Sydney Metro West – Stage 1 would be approved subject to conditions. The planning approval (Infrastructure Approval SSI 10038) and related environmental assessment documents are located at: https://www.planningportal.nsw.gov.au/major-projects/project/25631.

The Groundwater Monitoring Program (GMP) has been expressly nominated by the Planning Secretary to be endorsed by the ER. The GMP will be submitted to the ER for endorsement and DPE for information no later than one (1) month before the commencement of construction, or where construction is phased no later than one (1) month before the commencement of that phase. Construction will not commence until the GMP has been endorsed by the ER, unless otherwise agreed by the Planning Secretary. Similarly, construction cannot commence until all relevant baseline data for the specific construction activity has been collected. The GMP, as submitted to the ER, including any minor amendments approved by the ER, will be implemented for the duration of construction.

2.3.2 Revised Environmental Management Measures

The GMP was prepared to address requirements of the Revised Environmental Management Measures (REMMs) listed in the Construction Environmental Management Framework (Sydney Metro, 2020).

2.4 Scope of this Report

The scope of this report is to present the results of the first quarterly (3 months) project-wide groundwater monitoring event prior to the construction phase of the Project. The first event forms the baseline results as part of the ongoing construction groundwater quality monitoring program (GMP) and will be compared the groundwater triggers against following quarterly groundwater monitoring events.

3 SUMMARY OF PREVIOUS MONITORING EVENTS

3.1 Previous Groundwater Reports

The documents presented in **Table 2** below provide information on groundwater conditions, contamination, and considerations for water treatment plants relevant to the Project.

Table 2. Groundwater Related Reports for the Sydney Metro West Project

Report Title	Content	Summary
GLC (2022): Technical Report: Sydney Metro West – Western Tunnelling Package – Hydrogeological Interpretative Report, SSMWSTWTP-GLO-1NLNL000-GE-RPT-000001. 12 May 2022	Technical report developed to address groundwater related aspects of the specifications including key hydrogeological and geotechnical features, assessment of groundwater levels and inflows, hydrogeological conditions and parameters used as a basis for the design.	• Development of a two-dimensional (2D) hydrogeological model along the alignment, highlighting key hydrogeological features and zones of hydrogeological uncertainty • Interpretation of groundwater inflows to relevant water conveyancing structures, portal, dive, station, tunnel and cross-passage infrastructure • Interpretation of predicted groundwater drawdown associated with inflows to station infrastructure (i.e., stations, shafts, caverns, dive, etc) and the running tunnels/cross-passages.
GLC (2021): Technical memo: Assessment of water treatment plant inflow volumes and quality, SMSMW215-GLC-SWD-SW000-CT-TEM-0000003 19 January 2022	Technical memo assessing the volumes and quality of inflows to water treatment plants proposed to collect water within sub-surface infrastructure (e.g., stations, the tunnel, dive sites and tunnel spurs) along the Sydney Metro West – western tunnel package during construction and at handover.	• Estimation of the inflows reporting to each water treatment plant using the existing analytical flow equations in the hydrogeology returnable schedule • Estimation of the inflows to the services trench along Duck Creek by developing suitable analytical equations to match the conceptual conditions present. • Comparison of Sydney Metro's groundwater quality data against adopted criteria for analytes exceeding criteria with subsequent establishment of representative concentrations for these analytes reporting to each treatment plant.
GLC (2022) Sydney Metro West Groundwater Monitoring Report-Western Tunnelling Package Locations - 20446669-003-R-GWMR-RevD. 24 June 2022	Groundwater monitoring related works completed between June 2021 and June 2022.	• Installation and development of 106 groundwater monitoring wells at (SMW_ENV200 – 301, SMW_WTP_BH01 – BH41) and others • Laboratory testing of selected groundwater samples • Installation and monitoring of 3 Vibrating Wire Piezometers (VWPs)
GLC (2022) Interim Factual Contamination Assessment Report - 00013/11980 Sydney Metro West Geotechnical Investigation – WTP. 20446669-002-R-CAR-RevA- 4 April 2022	This Contamination Assessment Report (CAR) presents factual results of the contamination investigations along the project alignment undertaken for the Western Tunnelling Package (WTP) for both soil and groundwater.	• Site attendance at 158 locations to collect soil and rock samples for contamination testing from boreholes drilled along the proposed alignment: • Collection and submission of soil, rock, groundwater and surface water samples
Golder | Douglas Partners (2021): 00013/11180 Sydney Metro West Groundwater Monitoring Report – Stage 3 Locations, 1791865-026-R-	Factual groundwater monitoring report including the results of well development, groundwater sampling and level monitoring	• Installation and development of twenty six groundwater monitoring wells • Collection and analysis of groundwater samples from 102 selected groundwater monitoring wells

Report Title	Content	Summary
GWM Stage 3 RevC, dated 23 June 2021.	The scope of work was completed between August 2020 and March 2021	• VWP monitoring at installed locations. • Installation of (single) vibrating-wire piezometers in three geotechnical investigation boreholes. • Slug testing/hydraulic testing in two groundwater monitoring wells. • Measurement of groundwater levels using pressure transducers (level loggers).
Golder | Douglas Partners (2021): Sydney Mero West Geotechnical Investigation Groundwater Monitoring Report – Stage 2 Locations, 1791865-023-R-GWM Stage 2 Rev 1, dated 20 May 2021.	This report presents the results of the groundwater monitoring in monitoring wells and vibrating wire piezometers installed in boreholes drilled between April 2019 and September 2020 as part of the Stage 2 investigations.	• Installation and development of 46 groundwater monitoring wells. • Installation of (single) vibrating-wire piezometers in nine geotechnical investigation boreholes. • Measurement of groundwater levels using pressure transducers (level loggers). • VWP monitoring at installed locations. • Collection and analysis of groundwater samples from 53 selected groundwater monitoring wells nominated by the TA. • Slug testing/hydraulic testing in twenty-three groundwater monitoring wells.
Golder | Douglas Partners (2020): Contamination Factual Report, Downer EDI, Unwin St, Rosehill, 1791865-019-R-Rev0, Dated 4 May 2020.	Factual results of the contamination investigations along the proposed tunnel alignment.	• Installation of 5 groundwater monitoring wells. • Subsequent development and sampling of the five groundwater monitoring wells. • Development and sampling from two existing groundwater wells. • Implementation of a quality assurance / quality control (QA/QC) plan for the project.
Golder | Douglas Partners (2019): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 8, August 2019, 1791865-016-R-GWMR8-RevA, Dated 6 September 2019.	Factual results of the ongoing groundwater level monitoring along the proposed tunnel alignment from October 2018 to September 2019. Completion of groundwater monitoring rounds	• Level monitoring at 55 groundwater monitoring wells installed during the Sydney Metro West geotechnical investigations. • Measurement of groundwater levels using pressure transducers (level loggers). • Vibrating wire piezometers (VWPs) installed and monitored at 12 locations
Golder | Douglas Partners (2019): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 7, June 2019, 1791865-013-R-GWMR7-RevA, Dated 17 June 2019.		
Golder | Douglas Partners (2019): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 6, March 2019, 1791865-012-R-GWMR6-RevA, Dated 20 March 2019.		

Report Title	Content	Summary
Golder | Douglas Partners (2019): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 5, January 2019, 1791865-011-R-GWMR5-RevA, Dated 11 February 2019.		
Golder | Douglas Partners (2018): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 4, December 2018, 1791865-009-R-GWMR4-RevA, Dated 11 January 2019.		
Golder | Douglas Partners (2018): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 3, November 2018, 1791865-005-R-GWMR3-RevA, Dated 23 November 2018.		
Golder | Douglas Partners (2018): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Level Monitoring Report Round 2, November 2018, 1791865-004-R-GWMR2-RevA, Dated 6 November 2018.		
Golder | Douglas Partners (2018): 00013/11180 Sydney Metro West Geotechnical Investigation Groundwater Monitoring Report, November 2018, 1791865-003-R-GWMR-RevA, Dated 16 October 2018.		

4 METHODOLOGY

4.1 Groundwater Monitoring

The following sections provide a summary of the monitoring network established for the groundwater monitoring program, including details of monitoring bore locations, the specified groundwater quality/quantity monitoring conducted at each location, groundwater level monitoring, and the groundwater parameters assessed for groundwater quality.

4.1.1 Groundwater Monitoring Network

The proposed groundwater monitoring network consists of a total of 75 monitoring locations (at the time of reporting), including 8 vibrating wire piezometers (VWPs), allowing for continued monitoring of shallow and deep groundwater levels during both the construction and post-construction phases of the project, and to assess any changes in groundwater levels resulting from tunnel and shaft drainage.

Epic used a combination of QGIS, Gamuda's online GIS Web maps and available borehole logs to aid conceptualisation of how the information and data reviewed was spatially related to the project. All groundwater monitoring wells included in the monitoring network are summarised below in, Table 4 and Appendix B, locations are shown on Figure A1.

It should be noted that the original monitoring bore network presented in this factual report will be evolved over time as bores have been added, replaced, and/or substituted due to construction or third-party activities since the beginning of the project.

Table 3. Summary of the Project-targeted groundwater monitoring well details GWMP

Rep. Site	Bore ID	Sample	Eastings	Northings	Ground Level (mAHD)	Screen Interval	GW Level Measure	Target Unit
Westmead	SMW_BH001_s	No	313797.779	6257311.919	31.12	0.6-1.49	Manual	Silty clay
	SMW_BH001	No	313798.979	6257313.419	31.13	6.7-11.7	Manual	Silty clay
	SMW_BH32A	No	313763.4	6257203.2	----	3.5-10.1	Manual	Siltstone
	SMW_BH03A	No	313923.9	6257170.8	----	13.1-22.0	Manual	Siltstone/ Sandstone
	SMW_BH31A	Yes	313708.7	6257220.6	----	3.8-8.5	Manual	Siltstone
	SMW_BH01A	No	313806.4	6257167.2	----	2.5-7.1	Manual	Clay and siltstone
	SMW_BH008	No	314037	6257152.2	21.28	13.0-18.0	Manual	Siltstone/ Sandstone
	SMW_BH701	No	313817.9	6257205.8	29.38	4.0 – 9.0	Manual	Siltstone
	SMW_WTP_BH02	No	313599.2	6257266.7	----	14.0-20.0	Manual	Siltstone/ Sandstone
	SMW_BH013	No	313708	6257124.5	39.11	Unknown	Manual	Siltstone
Parramatta	SMW_BH002	No	315414.179	6256577.419	8.99	26.5-32.4	Logger	Sandstone
	SMW_BH003	No	315256.979	6256615.019	10.67	13.0-18.0	Manual	Clay/ Siltstone
	SMW_BH003_s	No	315255.979	6256615.319	10.67	8.4-11.0	Manual	Clayey Sand
	SMW_BH004	No	315399.179	6256779.519	13.54	5.7-11.5	Logger	Sandstone
	SMW_BH004_s	No	315398.979	6256778.319	13.58	20.6-23.6	Logger	Sand
	SMW_BH048_s	No	315343.279	6256837.819	----	4.0-7.5	Manual	Sand
	SMW_BH048	No	315344.079	6256837.619	----	19.6-22.6	Manual	Sandstone
	SMW_BH049	No	315207.679	6256760.319	----	1.6-6.0	Logger	Silty clay
	SMW_BH049_s	No	315207.679	6256760.319	----	16.9-22.1	Logger	Sandstone
Clyde and Rosehill	SMW-BH707	No	316562.1	6256170.9	4.57	Unknown	Logger	Sandstone
	SMW_BH007_s	No	317096.3	6256164.9	6.49	4.15-7.0	Logger	Clayey sand
	SMW_BH007	No	317095.9	6256165.3	6.49	15-22.4	Manual	Sandstone
	SMW_ADD_BH02	Yes	316919.4	6255766.5	13.56	13.0-20.5	Logger	Siltstone
	SMW_BH057_s	Yes	316956.2	6256072.4	3.84	1.0-5.3	Logger	Sand
	SMW_BH057	Yes	316958.8	6256068.4	3.84	23.3-26.3	Logger	Sandstone
	SMW_ENV011	No	316959.5	6256040.4	3.81	3.0-7.0	Manual	Clayey sand
	SMW_ENV010	Yes	316959.5	6256040.4	4.28	3.2-6.6	Manual	Sandy clay
	SMW_ENV009	Yes	316988.5	6256043.4	4.28	2.7-7.3	Logger	Clayey sand
	SMW_BH043	No	316908.3	6255573.2	12.78	6.5-12.5	Manual	Siltstone

Rep. Site	Bore ID	Sample	Eastings	Northings	Ground Level (mAHD)	Screen Interval	GW Level Measure	Target Unit
	SMW_BH064	No	316900.3	6255474.8	9.5	5.9-8.9	Manual	Siltstone
	SMW_ENV078	No	316893	6255363	6.38	8.5-14.5	Manual	Clay
	SMW_ENV077	No	316884	6255323	6.03	6.0-9.0	Manual	Clay
	SMW_ENV039	Yes	316919.4	6255274.5	6.41	7.3-10.3	Manual	Clay
	SMW_ENV283_s	No	317144.7	6255207.9	5.73	2.0-5.0	Manual	Clay
	SMW_ENV283	No	317145.2	6255207.8	5.73	19.0-25.0	Manual	Siltstone
	SMW_ENV293	Yes	316920.7	6255138.2	5.47	1.2-6.0	Manual	Clay
	SMW_WTP_BH18	Yes	317161.7	6255141.4	----	3.0-9.0	Manual	Sand, clay
	SMW_ENV083	Yes	317079.3	6255103.5	5.03	1.5-6.0	Manual	Clay
	SMW_ENV076	No	316846.8	6255066.9	5.3	6.0 - 10.0	Manual	Clay
	SMW_ENV089	Yes	317049.5	6254996.7	4.96	3.0-6.0	Manual	Fill
	SMW_ENV088	Yes	316952.6	6254972.9	4.85	2.5-6.0	Manual	Clay
	SMW_ENV90D	No	317170.1	6254998.1	4.58	3.2-6.0	Manual	Clay
	SMW_ENV90S	No	317168.3	6254997.9	4.57	1.0-3.0	Manual	Fill
	SMW_BH010	Yes	317461.7	6254973.5	4.35	Unknown	Manual	Unknown
	SMW_ENV042	Yes	317462.9	6254970.2	4.43	7.4 - 10.4	Logger	Clay
	SMW_ENV145	No	317491.8	6255159	4.74	11.0-14.0	Logger	Clay
	SMW_BH070	No	----	----	----	27.7 - 30.7	Logger	Siltstone / Sandstone
	SMW_BH16	No	317315.9	6255135.8	5.19	10.0-16.0	Logger	Clay, Sandy clay
	SMW_BH15A	No	317265.9	6255170.6	5.54	13.0-15.95	Manual	Clay
	SMW_ENV801	No	317261	6255194.9	5.83	Unknown	Manual	Unknown
	SMW_BH13	Yes	317214.3	6255249.1	5.39	1.3-7.3	Manual	Clay
	SMW_ENV814	No	317311.4	6255174.1	5.47	2.0-10.0	Logger	Clay
	SMW_ENV811	No	317302.5	6255102.4	5.06	1.0-6.0	Manual	Clay
	SMW_ENV812	No	317336.9	6255189.3	5.52	2.0-9.0	Manual	Fill, Clay
	SMW_ENV813	No	317362	6255210.3	5.5	2.0-8.0	Logger	Clay
	SMW _BH17	No	317354.1	6255063.2	5.1	1.2-5.7	Logger	Clay
	SMW_BH18	Yes	317161.7	6255141.4	5.09	3.0-9.0	Manual	Sand, clay
Clyde MSF	SMW_BH25	Yes	317297	6254975.6	5.56	7.2-10.5	Logger	Clay
	SMW_BH25_s	Yes	317290	6254795.6	----		Manual	Clay
	SMW_ENV045	Yes	317102.8	6254905.7	4.62	9.5-12.5	Logger	Clay
	SMW_ENV149	Yes	317418.7	6254656.7	3.4	6.0-9.0	Manual	Clay

Rep. Site	Bore ID	Sample	Eastings	Northings	Ground Level (mAHD)	Screen Interval	GW Level Measure	Target Unit
	SMW_ENV280	No	316956.4	6254897.6	4.44	4.0-7.0	Logger	Clay
	SMW_BH30_s	Yes	317250.8	6254701.2	4.24	2.5-5.4	Manual	Clay
	SMW_BH30	Yes	317250.1	6254701.5	4.27	6.0-9.0	Logger	Clay
Clyde Tunnel	SMW-BH709	No	319320	6254062.7	5.44	Unknown	Logger	Unknown
	SMW-BH709s	No	319320.1	6254063.4	5.44	Unknown	Logger	Unknown
	SMW_BH121	No	320533.6	6253587.1	4.51	13.0 - 16.0	Logger	Siltstone

Table 4. Summary of Vibrating Wire Piezometers (VWPs)

Rep. Site	Bore ID	Sample	Eastings	Northings
Westmead	SMW_BH013	No	313708	6257124.5
Clyde	SMW_BH045	Yes	316499.079	6256061.218
	SMW_BH111	No	316791.4	6255906.9
	SMW_WTP_BH024	No	321181.5	6253222.8
	SMW_WTP_BH018	No	317161.7	6255141.4
	SMW_BH722	No	316561.6	6256169.5
Rosehill	SMW_BH063	No	318071.5	6254561.2
	SMW_BH115	No	318838.7	6254307

4.1.2 Groundwater Monitoring Program

The groundwater monitoring program (GMP) July 2022 sampling round included the collection of groundwater samples and water level measurement of 26 monitoring wells as specified in Table 5 and Figure A2 in Appendix A. Water level was measured manually and/or recorded automatically by equipped water level probe(s) inside the wells. The GMP July 2022 event was undertaken as an initial event prior to construction. Ongoing monitoring will be ~~and~~ on a quarterly (3-month) basis thereafter at applicable monitoring bores.

Table 5. Summary of Groundwater Monitoring Program

Location	Bore ID	Monitoring Date	Water Quality	Water Level	Water Level Probe
Clyde and Rosehill	SMW_BH010	13/07/2022	✓	✓	
	SMW_WTP_BH18	13/07/2022	✓	✓	
	SMW_ENV042	13/07/2022	✓	✓	✓
	SMW_ENV293	13/07/2022	✓	✓	
	SMW_WTP_BH13	14/07/2022	✓	✓	
	SMW_ENV039	14/07/2022	✓	✓	
	SMW_ENV045	14/07/2022	✓	✓	✓
	SMW_WTP_BH057	15/07/2022	✓	✓	✓
	SMW_BH057_s	15/07/2022	✓	✓	✓
	SMW_ENV009	18/07/2022	✓	✓	✓
	SMW_ENV010	18/07/2022	✓	✓	
	SMW_ENV083	22/07/2022	✓	✓	
	SMW_ENV088	22/07/2022	✓	✓	
	SMW_ENV089	22/07/2022	✓	✓	
	SMW_ADD_BH02	08/08/2022	✓	✓	✓*
Clyde MSF	SMW_WTP_BH25	14/07/2022	✓	✓	✓
	SMW_ENV149	12/07/2022	✓	✓	
	SMW_BH25_s	14/07/2022	✓	✓	
	SMW_WTP_BH30	15/07/2022	✓	✓	✓
	SMW_WTP_BH30s	15/07/2022	✓	✓	
Westmead	SMW_ENV295	19/07/2022	✓	✓	
	SMW_ENV299	19/07/2022	✓	✓	
	SMW_ENV300	19/07/2022	✓	✓	
	SMW_ENV300_s	19/07/2022	✓	✓	
	SMW_WTP_BH31A	10/08/2022	✓	✓	
	SMW_ENV294	10/08/2022	✓	✓	

*Two probes presented

No bores were inspected in Parramatta site, as no access permission was granted during the July 2022 monitoring event.

4.1.3 Borehole Condition Assessment

Checks to the existing boreholes were made as part of the monitoring program, including:

- Location and identification of causes or obstructions.
- Determination of the condition of casings.
- Identification of corrosion and biofouling.
- Evaluation of cement grouts.
- Location of voiding behind linings.
- Measurement water quality.
- Location of running sand.

During site visits and sampling event, the condition of the boreholes was assessed and are discussed in **Section 6.3.**

4.2 Groundwater Level Monitoring

Water levels were gauged using an electronic interface probe during inspection or groundwater sampling events. Selected monitoring bores are to be equipped with water level probes (Solinst, In Situ Troll 100, or In Situ Troll 400) to automatically collect continuous groundwater measurements as specified in Table 5. In addition, vibrating wire piezometers (Table 4) are adopted to monitor porewater pressure and water levels.

All groundwater level monitoring was undertaken using manual measurement methods during the July 2022 monitoring round.

- Historical level logger data from selected bores is discussed in **Section 0** to provide context for baseline data.
- No vibrating wire piezometer data was collected during the July 2022 monitoring round.

4.2.1 Standpipe Piezometers

Pressure transducers with digital dataloggers were installed during historical groundwater monitoring programs in selected standpipe piezometers to provide continuous data collection as specified in Table 3 and Appendix B.

A discussion of water levels is presented in **Section 6**.

4.3 Groundwater Quality Monitoring

4.3.1 Monitoring Program

Groundwater quality monitoring during the July 2022 monitoring event included Groundwater monitoring at twenty-one (21) locations for water quality testing from boreholes listed in Table 5.

No bores were inspected in Parramatta site, as no access was permissioned during the July 2022 monitoring event.

4.3.2 Sample Collection

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 bores and sampling equipment.
- 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 bore.
- Methods of collection, storage bottles and transportation to the laboratory should suit the type of analysis required.

Groundwater sampling was undertaken in accordance with the following procedure:

- The condition of monitoring bores was assessed before the sampling activities.
- SWL and TD were gauged manually prior to purging, using a cleaned/decontaminated and calibrated interface probe.
- 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 dry wells, instead of a low-flow sampling method, a standard groundwater sampling protocol (i.e., volume average sampling) was adopted, due to the slow water recharge during the sampling activity.
- Field measurements for physical groundwater parameters were taken using a flow cell and calibrated water quality meter fitted with a multi-sensor probe (pH, EC, dissolved oxygen (DO), temperature, and redox potential (Eh)) during purging. Field parameters were measured in a flow cell using a multiparameter probe (water quality meter) to avoid contact between the groundwater and the atmosphere. Readings of field parameters were recorded at a minimum of every three (3) minutes (where sampling rate is 100 ml/minute or more) or five minutes (if flow rate is less than 100 ml/minute) until

parameters have stabilised (stabilisation defined as three successive stable parameter readings within the limits defined in Table 6).

- Groundwater samples were collected after confirmation of SWL and aquifer parameter stabilisation (refer to Table 6)
- A physical description of the sample, including colour, turbidity (visual), odour, and presence of film, sheen or foam were recorded on standardised field sheets.
- Groundwater samples were stored in clean laboratory prepared bottles containing the appropriate preservatives
- 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.
- All groundwater samples were labelled accordingly and placed immediately into an esky containing ice.
- Chain of custody (CoC) documentation was completed at the time of sampling and associated with the samples to the laboratory.
- One rinsate blank was collected from the water level probe 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 has not occurred.
- Samples were submitted to a National Association of Testing Authorities (NATA) – accredited laboratory for analysis.

Table 6 Stabilisation Criteria for Water Quality Parameters

Field Parameter	Control Limit
Dissolved Oxygen (DO)	± 10% of reading or ± 0.2 mg/L
Temperature	± 0.2 °C
pH	± 0.2 pH units
Electrical Conductivity	± 3% of reading
Redox Potential (Eh)	± 20 mV

4.3.3 Laboratory analysis

Groundwater samples were sent to NATA accredited laboratories for analysis of selected parameters listed in Table 7.

Table 7. Groundwater monitoring analytical suite and parameters for GMP

Parameters	Rationale	Comments
Field Parameters: Electrical Conductivity (EC), Temperature, pH, Dissolved Oxygen (DO), Oxygen Reduction Potential (ORP)	Assessment of groundwater physico-chemical parameters will be conducted to assess impacts to the beneficial use of the aquifer. Selection of this analytical suite will improve on-going understanding of groundwater conditions and complement the other analytical suites selected.	Field tested by WQM
General water quality parameters (Lab) – EC, TDS, Alkalinity, Hardness		Sampled and laboratory tested
Major Ions – Calcium, Magnesium, Potassium, Bicarbonate, Sodium, Chloride, Sulfate	ASS have been identified in select sites within the Project area. On-going monitoring of this analytical suite will allow for assessment of groundwater quality with respect to the potential reactivation of ASS.	Sampled and laboratory tested
Extended Suite Heavy Metals – 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)	Concentrations of dissolved metals have been reported in groundwater in excess of the ANZG, 2018 (total metals) guidelines for both fresh and marine water quality. On-going monitoring of these selected metals will be conducted to identify and assess vertical and/or horizontal migration as a result of dewatering and construction activities.	Field filtered and Ultra-trace analysis required by laboratory
Nutrients – Total Nitrogen (TN), Total Oxidized Nitrogen, Nitrate, Nitrite, Total Ammonia, Ammonium, Total Phosphorous, Total Reactive Phosphorous, Total Reactive Phosphorous, Total Kjeldahl Nitrogen	Concentrations of nutrients have been reported in groundwater in excess of the ANZG (2018). Ongoing monitoring of these COPC will be conducted to identify and assess vertical and/or horizontal migration as a result of dewatering activities.	Ultra-trace analysis required by laboratory

Parameters	Rationale	Comments
Total petroleum hydrocarbons (TPH) – C_6 – C_{10}, >C_{10} - C_{16}, etc.	Ongoing monitoring of these chemicals of potential concern will be conducted to identify and assess vertical and/or horizontal migration as a result of dewatering activities.	Sampled and laboratory tested
Aromatic Hydrocarbons (BTEXN) – Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene		Sampled and laboratory tested
Polycyclic Aromatic Hydrocarbons (PAHs)		Sampled and laboratory tested
Pesticides including organochlorine pesticides (OCPs) / organophosphorus pesticides (OPPs)		Sampled and laboratory tested
Herbicides		Sampled and laboratory tested
Volatile Organic Compounds (VOCs)/ Semi-Volatile Organic Compounds (SVOCs)		Sampled and laboratory tested
Per- and Poly-Fluoroalkyl Substances (PFASs)		Sampled and laboratory tested

4.4 Quality Assurance/Quality Control Plan

The following quality assurance (QA) and quality control (QC) samples were proposed for the monitoring program in accordance with protocols outlined in the Gamuda Groundwater Monitoring Program (Gamuda, 2022). It is noted that per the PFAS NEMP (HEPA, 2020), where PFAS samples are collected, the frequency of analysis for QA/QC samples should be increased from what is defined in ASC NEPM (NEPC, 2013).

Monitoring was completed in accordance with the sampling procedures (including QA/QC) described in:

- 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.

4.4.1 Field Quality Control

Standard QA/QC procedures were adopted during the investigation, including those for sample collection, management, and handling. Specific requirements included the use of laboratory prepared jars and containers, collection of an appropriate number of quality control samples, preservation of samples in ice chests and transport to laboratories under chain of custody documentation. Calibration of all field measuring equipment such as the water quality meter was carried out by the equipment supplier and the calibration certificates retained by the field scientist/engineer.

The sample labels included sample identification numbers, date of collection, sampler initials and project number. Each sample was labelled with a unique sample identification number to facilitate tracking and cross referencing of sample information. Quality Control (QC) samples were also numbered with a unique sample number, consistent with the numbering system required for the project.

Chain of Custody (CoC) records were used to track samples from the time of collection to the arrival of samples at the laboratory. Each sample container being shipped to the laboratory contained a CoC form as shown in Appendix E. The laboratory maintains one copy of all CoCs for its records. The scanned original was returned to Epic acknowledging receipt of samples.

Samples were placed in appropriate laboratory-supplied sample containers, filled to reduce headspace, labelled, and properly sealed and transferred to an ice cooler for transport to the contract laboratory. Samples were cushioned within the shipping coolers by the use of bubble pack wrapping and were kept cool by the use of ice.

The results of the Field QAQC blank/spike samples are presented in the Table appendix. Calculated RPDs from duplicate sampling is presented in the Tables Appendix.

4.4.1.1 Decontamination

Equipment was cleaned periodically and between sampling locations to prevent a build-up of dirt and 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

4.4.1.2 Rinsate Blanks

Rinsate blanks were used to estimate the amount of contamination introduced during the re-use of sampling equipment. Rinsate blank samples were obtained by pouring laboratory supplied deionised water over decontaminated sampling equipment (e.g., groundwater interface probe) and collecting the water in laboratory supplied bottles. Rinsate blank samples were included at a rate of one per day of sampling or wherever uncertainty may arise regarding the potential for contamination. Where PFAS is proposed for analysis, rinsate blanks should be collected at a rate of at least for every ten primary samples (10%).

4.4.1.3 Intra-/Inter-Laboratory Duplicates

Intra- and inter-laboratory duplicates were analysed at a rate of one per ten primary samples (10%), respectively.

4.4.1.4 Trip Blanks/Trip Spikes

A sample of laboratory supplied deionised water accompanied the primary samples over the course of the fieldworks and was submitted to the laboratory for analysis. A trip blank sample was included at a rate of one per batch.

Similarly, a laboratory provided trip spike was submitted at a rate of one per batch.

4.4.1.5 Sampling Records

Field sampling records were recorded on appropriate field sheets (hard copy or digital) using unique sampling identification nomenclature consisting of the sample identification, parent sample identification, sample date, location, and sampler details. Records can be found in Daily Purge Sheets presented in **Appendix D.**

Details of all quality samples were recorded on an internal database.

4.4.2 Laboratory Quality Control

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, collated, and summarised in tabular form. 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 E.**

4.4.3 Regulatory Framework

The groundwater monitoring program was conducted in accordance with all necessary legislative requirements. The relevant NSW Legislation pertaining to water quality management for this report includes:

- Environmental Planning and Assessment Act 1979 (EPA Act);
- Protection of the Environment Operations Act 1997 (POEO Act);
- Water Act 1912;
- Water Management Act 2000; and
- Water Management (General) Regulation 2011.

Groundwater bores sampled were installed in general accordance with the following guidelines:

- Department of Primary Industries Office of Water NSW Aquifer Interference Policy (September 2012); and
- National Uniform Drillers Licensing Committee, Minimum Construction Requirements for Water Bores in Australia, Third edition (2013).

5 PERFORMANCE CRITERIA

5.1 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 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).

5.2 Groundwater Quality Monitoring

The following criteria were adopted as the indicator values of 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 assessed based on the 99% species protection criteria.
- NEPM (2013) Groundwater Investigation Levels for marine water.
- ANZECC (2000) Default Guideline Values for estuaries, with criteria for total oxidised nitrogen of 300 mg/L, total nitrogen of 15 mg/L, and total phosphorus of 30 mg/L.
- PFAS NEMP 2.0 (2020) Interim Marine Water 99% Level of Protection for perfluorooctane sulfonate (PFOS) criteria of 0.00023 µg/L, and perfluorooctanoic acid (PFOA) criteria of 19 µg/L.

The marine water trigger levels are adopted to represent a more specific metric for impact assessment in Parramatta River catchments.

A significant / reportable change in groundwater quality will be defined as:

- A parameter exceeding trigger values, which has been recorded during baseline monitoring as non-detect or below trigger value criteria, or
- 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 monitoring bore, where the baseline value exceeds the NEPM GIL trigger values, or
- A parameter increasing in concentration over a sustained period (i.e., for at least 2 events) to more than 2x its baseline value in monitoring bores adjacent to excavations, where the baseline value exceeds the ANZECC (2000) or ANZG (2018) trigger value.

6 RESULTS

6.1 Registered Groundwater Bores

A review of the registered groundwater bores in the 3 Km-data buffer of the Project alignment based on the search of the WaterNSW groundwater Site details on 15th August.2022 (https://realtimedata.waternsw.com.au/) and BOM Groundwater Explorer Portal on 17th August 2022 (http://www.bom.gov.au/water/groundwater/explorer/map.shtml), identified 354 existing registered groundwater bores summarised below in Appendix B, with limited existing beneficial groundwater use near the project corridor. This information has attached uncertainties as it may not identify all beneficial groundwater use (e.g., unregistered bores) or whether these beneficial use activities are active or whether the use is from the same beneficial aquifer and as such additional investigations (which are outside the scope of this report) may be required to confirm the presence of any potential beneficial groundwater use interactions.

6.2 Rainfall data

The rainfall data has been downloaded from the Bureau of Meteorology webpage (http://www.bom.gov.au/climate/data/) for the Parramatta North (Masons Drive) station (Station Number: 066124). Mean monthly rainfall data between January and July 2022 are shown in Table 8, along with the mean value and median value for those months for all data records since 1965.

Table 8. Summary statistics of rainfall data records for Parramatta North Station

Statistic / mm	Jan	Feb	Mar	Apr	May	Jun	Jul
Monthly rainfall 2022	147.8	253.0	554.2	147.6	91.4	2.8	338.6
Average for all years (1965 – 2022)	101.5	128.4	124.7	88.1	66.9	89.3	50.8
Median for all years (1965 – 2022)	89.4	107.3	94.9	54.3	45.0	62.4	33.8
Highest Daily	100.0	190.4	168.1	140.1	153.8	209.1	138.4

The monthly rainfall in 2022 had above average rainfall for most of the month except June.

Seasonal changes are a factor in the distribution of annual rainfall at the station, with the five wettest months of the year (January – April, Jun) accounting for around 55% of total annual rainfall. Over the remaining months, the minimum rainfall was generally recorded during the months between July to September.

6.3 Borehole Condition Assessment

The condition assessment of the boreholes in the Epic groundwater monitoring network (Table 3) has been carried out between 29th June and 7th July, with the following observations being made regarding the condition of the bores.

The following bores were not sampled and were destroyed or inaccessible due to the construction activities on site:

SMW_BH007	SMW_BH007_s	SMW_BH043	SMW_BH64	SMW_BH707
SMW_ENV076	SMW_ENV077	SMW_ENV078	SMW_ENV090_s	SMW_ENV090D
SMW_ENV280	SMW_ENV283	SMW_ENV283_s	SMW_ENV801	SMW_ENV811
SMW_ENV812	SMW_ENV813	SMW_ENV814	SMW_WTP_BH02	SMW_WTP_BH03
SMW_WTP_BH15A	SMW_WTP_BH16	SMW_WTP_BH17		

The following bore was dry and was therefore not sampled:

SMW_WTP_BH32A

The following bore was not accessible due to being blocked by cars parked on top (on multiple occasions):

SMW_ENV145

Note that traffic controller and protection are required for safety reasons when sampling this borehole as it appears on the road where heavy vehicles were passing by during working hours.

The following bores were sampled for this monitoring event and were then destroyed after:

SMW_ENV293	SMW_WTP_BH25	SMW_WTP_BH30	SMW_WTP_BH30_s

The following bores were installed by Epic to provide a comprehensive understanding of the groundwater levels and quality along the Project alignment, assisting with contamination detailed site investigations (DSIs):

CZ1_BH06	CZ1_BH08	CZ1_BH11	CZ1_BH13	CZ1_BH20
CZ1_BH141	CZ1_BH144	CZ1_BH42	CZ1_BH134	CZ1_BH61
CZ1_BH71	CZ1_BH130	CZ1_BH112	PM_MW14	PM_MW15
PM_MW16	WM_BH01	WM_BH04	WM_BH17	WM_BH22

GWMWs not listed above were observed to be accessible and appropriate for sampling at the time of inspection. Wells found appropriate for sampling/gauging are detailed below in **Section 6.4** and **Section 6.5.**

6.4 Groundwater Levels

6.4.1 Groundwater Level and Elevation

6.4.1.1 Manual Groundwater Level Monitoring

Water levels were manually measured at all monitoring bores within the GMP from 12th to 19th July 2022 and are presented in Table 9. The water level will be measured every three months during groundwater sampling events.

Table 9:Manual Groundwater Level Monitoring

Well Number	Date	Ground Level (mAHD)	SWL (mbTOC)	SWL Elevation (mAHD)	Total Depth Measured (mbTOC)
SMW_ENV_293	13/07/2022 10:30	5.47	3.312	2.158	6.00
SMW_WTP_BH18	13/07/2022 12:00	5.09	0.695	4.395	----
SMW_BH010	13/07/2022 14:00	4.35	1.285	3.065	----
SMW_ENV042	13/07/2022 16:30	4.43	1.710	2.720	----
SMW_ENV045	14/07/2022 09:15	4.62	2.038	2.582	----
SMW_WTP_BH13	14/07/2022 10:30	5.39	0.581	4.809	7.30
SMW_WTP_BH25	14/07/2022 13:00	5.56	2.413	3.147	----
SMW_BH25_s	14/07/2022 14:30	----	2.650	----	5.82
SMW_ENV039	14/07/2022 16:30	6.41	4.185	2.225	10.53
SMW_WTP_BH30	15/07/2022 09:30	4.27	1.100	3.170	10.30
SMW_WTP_BH30s	15/07/2022 11:00	4.24	1.500	2.740	5.35
SMW_BH057_s	15/07/2022 12:30	3.84	1.580	2.260	4.53
SMW_WTP_BH057	15/07/2022 14:30	3.84	1.600	2.240	27.61
SMW_ENV010	18/07/2022 10:00	3.81	1.520	2.290	7.13
SMW_ENV009	18/07/2022 12:00	4.28	1.650	2.630	7.22
SMW_ENV300_s	19/07/2022 10:00	----	0.990	----	1.92
SMW_ENV300	19/07/2022 11:30	----	4.920	----	5.51
SMW_ENV299	19/07/2022 13:30	----	5.825	----	6.35
SMW_ENV295	19/07/2022 14:00	----	1.290	----	6.44
SMW_ENV083	22/07/2022 08:30	5.03	0.42	4.61	5.95
SMW_ENV089	22/07/2022 09:30	4.85	3.3	1.55	6.03

SMW_ENV088	22/07/2022 12:30	4.96	2.98	1.98	7.95
SMW_ENV294	10/08/2022 8:26	----	3.206	----	6.47
SMW_WTP_BH31A	10/08/2022 14:53	----	4.27	----	8.38
SMW_ADD_BH02	18/07/2022 14:00	13.56	11.34	2.22	30.5
SMW_ENV149	12/07/2022 8:05	3.4	1.29	2.11	9.38

6.4.1.2 Automatic Groundwater Level Monitoring

Selected monitoring bores (refer to Appendix B) have been equipped with water level probes. These bores have provided continuous groundwater level measurements.

Selected hydrographs have been plotted based on the historical groundwater level data provided by Golder, along with daily rainfall data recorded at the closest weather station (Station Number: 066124). The hydrographs present continuous logging data ranging between April 2018 to August 2022.

The water level probes from the following boreholes SMW_WTP_BH25 and SMW_WTP_BH30 were retrieved during this monitoring event prior to the monitoring bores being destroyed.

No groundwater information was extracted from the above probes due to expired battery of loggers.

6.4.2 Groundwater Level Trends

Based on the hydrographs and historical water level information, seasonal variations are observed in the majority of monitoring bores.

It should be noted that the groundwater levels at SMW_WTP_BH019, also located at the north boundary of Parramatta Station, present variations that may be attributable to the dewatering or pumping activities.

The SMW_WTP_BH018, located at the Unwin Street (Clyde), is equipped with three VWP sensors at different depth in the Clay (14 m), Siltstone (28.2 m), and Sandstone (33 m) geological units, respectively. Groundwater level was stable (± 0.25 m) between September 2021 to June 2022.

The SMW_WTP_BH024, located at Showground Road (Sydney Olympic Park), is equipped with two VWP sensors at the depth of respectively 10 m and 18 m, targeting the interlaminated siltstone and Sandstone units. An overall drawdown of groundwater level has been observed, with the fluctuation followed a seasonal pattern.

Groundwater level information will be acquired in the ongoing GMEs to assess the potential impacts as a result of any observed drawdown.

6.5 Groundwater Quality

The groundwater sampling results are summarized in Table B4 in Appendix B. The Daily Purge Sheets, Chain of Custody (CoC), and Certificates of Analyses (CoA) are presented in Appendix D and Appendix E respectively.

6.5.1 Groundwater field observations

Light Non-Aqueous Phase Liquid (LNAPL) No Light Non-Aqueous Phase Liquid (LNAPL) was visually observed in the monitoring bores sampled. The boreholes, SMW_ENV083, SMW_ENV088, and SMW_ENV089, were found with a sheen on the surface of the water inside the well.

6.5.2 Groundwater field parameters

The field pH was slightly acidic (pH between 4.5 – 7) from most of the groundwater monitoring bores except SMW_BH25_s at Clyde MSF (pH 7.14), exceeding the ANZECC (2000) default trigger values for Estuaries.

The field parameters recorded during sampling are shown below in Table 10.

Table 10. Summary of Groundwater Field Parameters

Bore ID	Date	Temperature	pH	Electric Conductivity	ORP	DO	
		°C		µS/cm	Mv	(ppm)	(%Sat)
SMW_ENV_293	13/07/2022 10:30	-	-	-	-	-	-
SMW_WTP_BH18	13/07/2022 12:00	20.3	5.86	28556	30.2		-1.9
SMW_BH010	13/07/2022 14:00	18.8	6.22	26835	54.6	0.01	0.01
SMW_ENV042	13/07/2022 16:30	18.6	5.74	24274	45.4	0.13	1.6
SMW_ENV045	14/07/2022 09:15	18.9	6.76	4975	67	1.09	11.9
SMW_WTP_BH13	14/07/2022 10:30	16.9	6.99	1325	80.8	0.18	1.8
SMW_WTP_BH25	14/07/2022 13:00	20	5.83	30526	9.4	0.13	1.6
SMW_BH25_s	14/07/2022 14:30	19.6	7.14	3540	-107.6	0.11	1.2
SMW_ENV039	14/07/2022 16:30	19.9	6.27	30759	43.7	0.12	1.5
SMW_WTP_BH30	15/07/2022 09:30	18.5	6.15	30826	55.1	0.09	1.1
SMW_WTP_BH30s	15/07/2022 11:00	18.1	5.96	34413	106.1	0.1	1.3
SMW_BH057_s	15/07/2022 12:30	18.2	6.54	1679	-21.1	0.06	0.6
SMW_WTP_BH057	15/07/2022 14:30	20.5	6.69	8293	25.9	0.09	1.1
SMW_ENV010	18/07/2022 10:00	22.6	6.11	1432	-18.3	0.11	1.2
SMW_ENV009	18/07/2022 12:00	21.4	6.95	1709	-86.5	0.05	0.6
SMW_ENV300_s	19/07/2022 10:00	16.2	4.39	342.9	259.9	3.73	36.9
SMW_ENV300	19/07/2022 11:30	20.4	5.71	3485	206.5	1.28	-
SMW_ENV299	19/07/2022 13:30	21.1	4.87	1746	292.1	1.12	-
SMW_ENV295	19/07/2022 14:00	19.9	4.62	477.2	226.9	0.2	2.1
SMW_ENV083	22/07/2022 08:30	18.4	5.24	11642	132.8	0.26	3
SMW_ENV089	22/07/2022 09:30	17.6	6.68	3496	-23.8	7.78	77.1
SMW_ENV088	22/07/2022 12:30	19.1	6	5362	-2.7	0.3	3
SMW_ENV294	10/08/2022 8:26	19.3	4.75	523	214.7	0.2	-
SMW_WTP_BH31A	10/08/2022 14:53	19.2	6.96	4033	1922	0.55	-
SMW_ADD_BH02	8/08/2022 14:00	-	-	-	-	-	-
SMW_ENV149	12/07/2022 8:05	18.7	5.87	22284	11.2	0.05	0.7

6.5.3 Analytical results

Exceedances of adopted criteria were identified for the following analytes.

- Ammonia as N and Nitrogen (total).
- Heavy metals (including Copper, Nickel, Zinc).
- Chlorobenzene and Isopropylbenzene.
- PFOS.

A summary of groundwater exceedances is provided in **Table 11** below.

Table 11. Adopted Criteria Exceedances

Parameter	Criteria	Unit	Threshold	Result	BH ID	Location
Ammonia As N	ANZG (2018) 95% Marine Waters	mg/L	0.91	9.9	SMW_ENV009	Clyde
				4.1	SMW_ENV010	
				2.3	SMW_WTP_BH057	
				1.9	SMW_WTP_BH25	
				16	SMW_WTP_BH25_s	
				1.3	SMW_WTP_BH30	
				1.1	SMW_WTP_BH18	Rosehill

Parameter	Criteria	Unit	Threshold	Result	BH ID	Location
				7.1	SMW_BH010	
				1.4	SMW_ENV042	
				17	SMW_ENV089	
				6.4	SMW_ENV088	
Nitrogen (total)	ANZECC (2000) Estuaries	mg/L	0.3	0.9	SMW_ENV039	Clyde
				0.9	SMW_ENV045	
				2.4	SMW_WTP_BH057	
				0.4	SMW_BH057_s	
				13	SMW_ENV009	
				5.5	SMW_ENV010	
				0.7	SMW_ENV149	
				1.2	SMW_WTP_BH30	
				2.6	SMW_WTP_BH25	
				22	SMW_WTP_BH25_s	
				1.4	SMW_ENV_293	Rosehill
				1	SMW_WTP_BH18	
				8.2	SMW_BH010	
				1.4	SMW_ENV042	
				0.4	SMW_ENV083	
				13	SMW_ENV089	
				7.9	SMW_ENV088	
				0.7	SMW_ENV295	Westmead
				0.8	SMW_ENV300_s	
Copper	ANZG (2018) 95% Marine Waters	µg/L	1.3	5	SMW_ENV045	Clyde
				2	SMW_WTP_BH13	
				2	SMW_WTP_BH30	
				2	SMW_ENV010	
				860	SMW_BH010	Rosehill
				290	SMW_ENV042	
				2	SMW_ENV083	
				5	SMW_ WTP_BH31A	Westmead
				14	SMW_ENV294	
				9	SMW_ENV295	
				7	SMW_ENV299	
				3	SMW_ENV300	
				3	SMW_ENV300_s	
Nickel	ANZG (2018) 95% Marine Waters	µg/L	7	10	SMW_ENV149	Clyde
				13	SMW_WTP_BH25	
				16	SMW_WTP_BH30	
				25	SMW_WTP_BH30s	
				16	SMW_WTP_BH057	
				8	SMW_ENV010	
				8	SMW_WTP_BH18	Rosehill
				25	SMW_ENV042	
				9	SMW_ENV083	
				8	SMW_ENV294	Westmead
				59	SMW_ENV299	
				130	SMW_ENV300	
Zinc	ANZG (2018) 95% Marine Waters	µg/L	15	43	SMW_ENV045	Clyde
				370	SMW_WTP_BH25	
				18	SMW_WTP_BH30	
				50	SMW_WTP_BH30s	
				23	SMW_WTP_BH18	Rosehill
				39	SMW_ENV042	

Parameter	Criteria	Unit	Threshold	Result	BH ID	Location
				24	SMW_ENV083	
				35	SMW_ENV088	
				25	SMW_ENV295	Westmead
				200	SMW_ENV_299	
				540	SMW_ENV_300	
				34	SMW_ENV294	
				16	SMW_WTP_BH31A	
PFOS	PFAS NEMP 2020 Interim Marine 99%	µg/L	0.00023	0.02	SMW_BH057_s	Clyde
				0.12	SMW_ENV083	Rosehill
				0.0006	SMW_ WTP_BH31A	Westmead
				0.0029	SMW_ENV294	
				0.03	SMW_ENV295	
Chlorobenzene	ANZG (2018) 95%	µg/L	55	1500	SMW_WTP_BH25_s	Clyde
Isopropylbenzene	ANZG (2018) 95%	µg/L	30	31	SMW_ENV294	Westmead
				34	SMW_ENV295	

6.5.4 Groundwater Quality Trends

The groundwater quality trends will be further assessed based on the ongoing groundwater monitoring events.

7 CONCLUSIONS

During the first GME of the construction stage, no significant activities had begun that could have an impacted on groundwater. The results of this monitoring event are therefore considered to be representative of baseline condition for the Project (Western Tunnelling Package).

- The historical water level information presents a seasonal change in all the monitoring bores.
- Groundwater quality results indicates exceedances of criteria for parameters including pH, Ammonia, Nitrogen (Total), Copper, Nickel, Zinc, PFOS, Chlorobenzene, and isopropylbenzene.

The groundwater monitoring network and GMP will be updated based on the borehole condition assessment for next monitoring events.

The monitoring trends of groundwater decline (in both quality and quantity) will be investigated based on further monitoring events to identify the adverse trends in analytes concentrations and groundwater drawdown. Seasonal variation should be taken into consideration.

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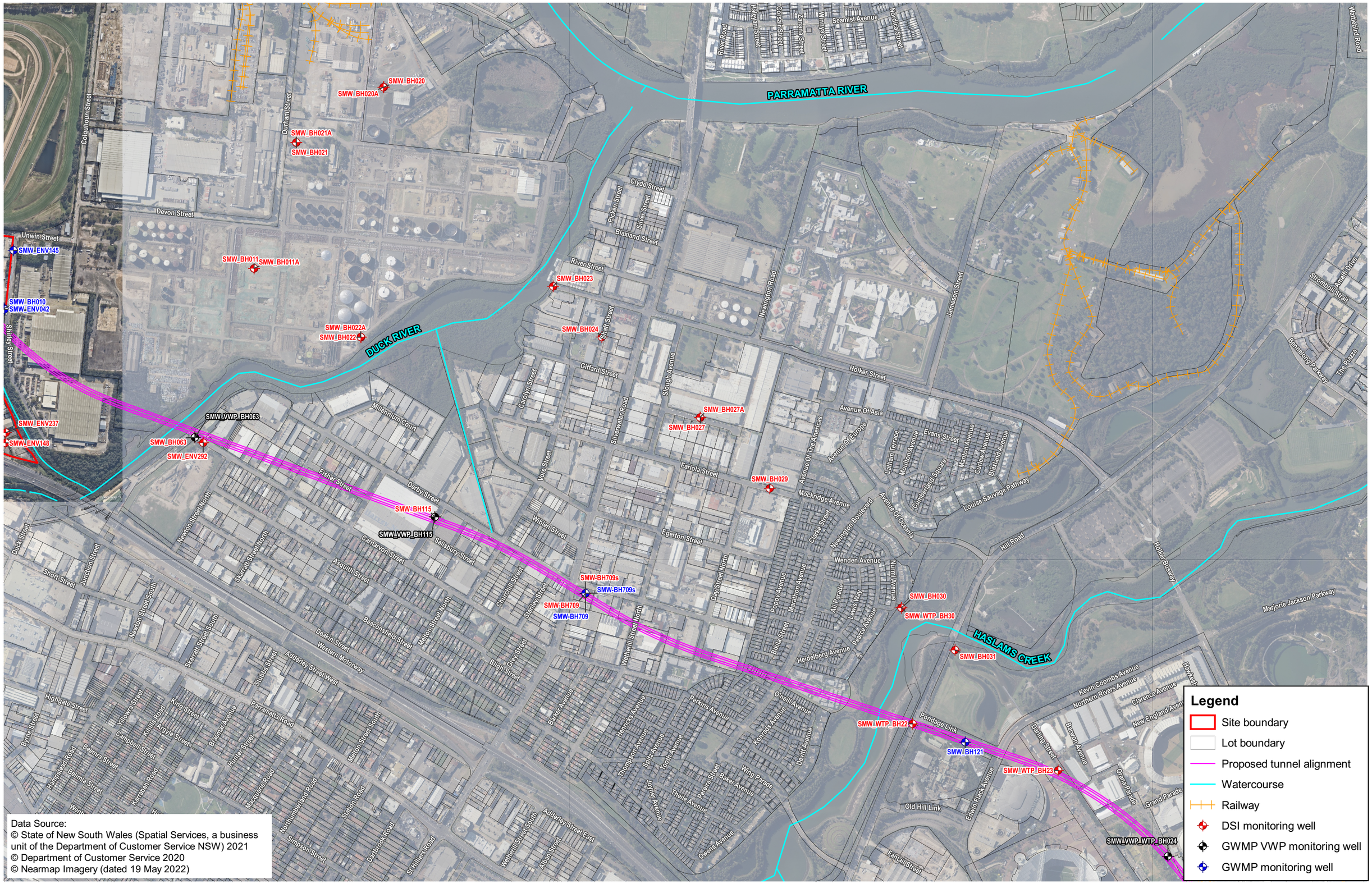
9 ACRONYMS

Environmental Planning and Assessment	EPA
Environmental Impact Statement	EIS
Critical State Significant Infrastructure	CSSI
Australian and New Zealand Environment and Conservation Council	ANZECC
Australian and New Zealand Guidelines	ANZG
National Environment Protection Measure	NEPM
National Environment Protection Council	NEPC
Aquifer Interference Policy	AIP
the Heads of Environment Protection Authority Australia and New Zealand	HEPA
Groundwater Investigation Levels	GILs
Groundwater Dependent Ecosystems	GDEs
Hydrogeological Interpretive Report	HIR
Sydney Metro West	SMW
Construction Environmental Management Framework	CEMF
Revised Environmental Management Measures	REMMs
Gamuda Australia Laing O'Rourke Consortium	GLC / Gamuda
Western Tunnelling Package	WTP
Maintenance and Stabling Facility	MSF
Groundwater Monitoring Program	GMP
Vibrating Wire Piezometers	VWPs
Surface Water Level	SWL
Standard Operating Procedure	SOP
Light Non-Aqueous Phase Liquid	LNAPL
Electrical Conductivity	EC
Total Dissolved Solids	TDS
Total Nitrogen	TN
Dissolved Oxygen	DO
Oxygen Reduction Potential	ORP
Redox Potential	Eh
Aluminium	Al
Arsenic	Ar
Cadmium	Cd
Chromium	Cr
Copper	Cu
Mercury	Hg
Lead	Pb
Nickel	Ni
Zinc	Zn
Manganese	Mn
Iron	Fe
Total Petroleum Hydrocarbons	TPH
Benzene, Toluene, Ethylbenzene and Xylene	BTEX
Organochlorine Pesticides	OCPs
Organophosphorus Pesticides	OPPs

Acid Sulfate Soils	ASS
Volatile Organic Compounds	VOCs
Polycyclic Aromatic Hydrocarbons	PAHs
Per- and Poly-Fluoroalkyl Substances	PFAS
National Association of Testing Authorities	NATA
Water Quality Meter	WQM
Chain of Custody	CoC
Certificates of Analyses	CoA
Laboratory	Lab
Personal Protective Equipment	PPE
Chemicals Of Potential Concerns	COPC
Quality Assurance	QA
Quality Control	QC
Relative Percentage Difference	RPD

APPENDIX A FIGURES

Figure A1. Overview of GWMP and DSI Monitoring Wells
Figure A2. Sampled monitoring wells



Made with QGIS

File Path: G:\GIS\Epic Environmental\Projects\SC2021\SC210108.01 Gamuda SMW WTP Enviro Support\Workspaces\Factual Groundwater Monitoring Report 2022\Figure F1 Overview of GWMP and DSI Monitoring Wells.qgz

epic ENVIRONMENTAL

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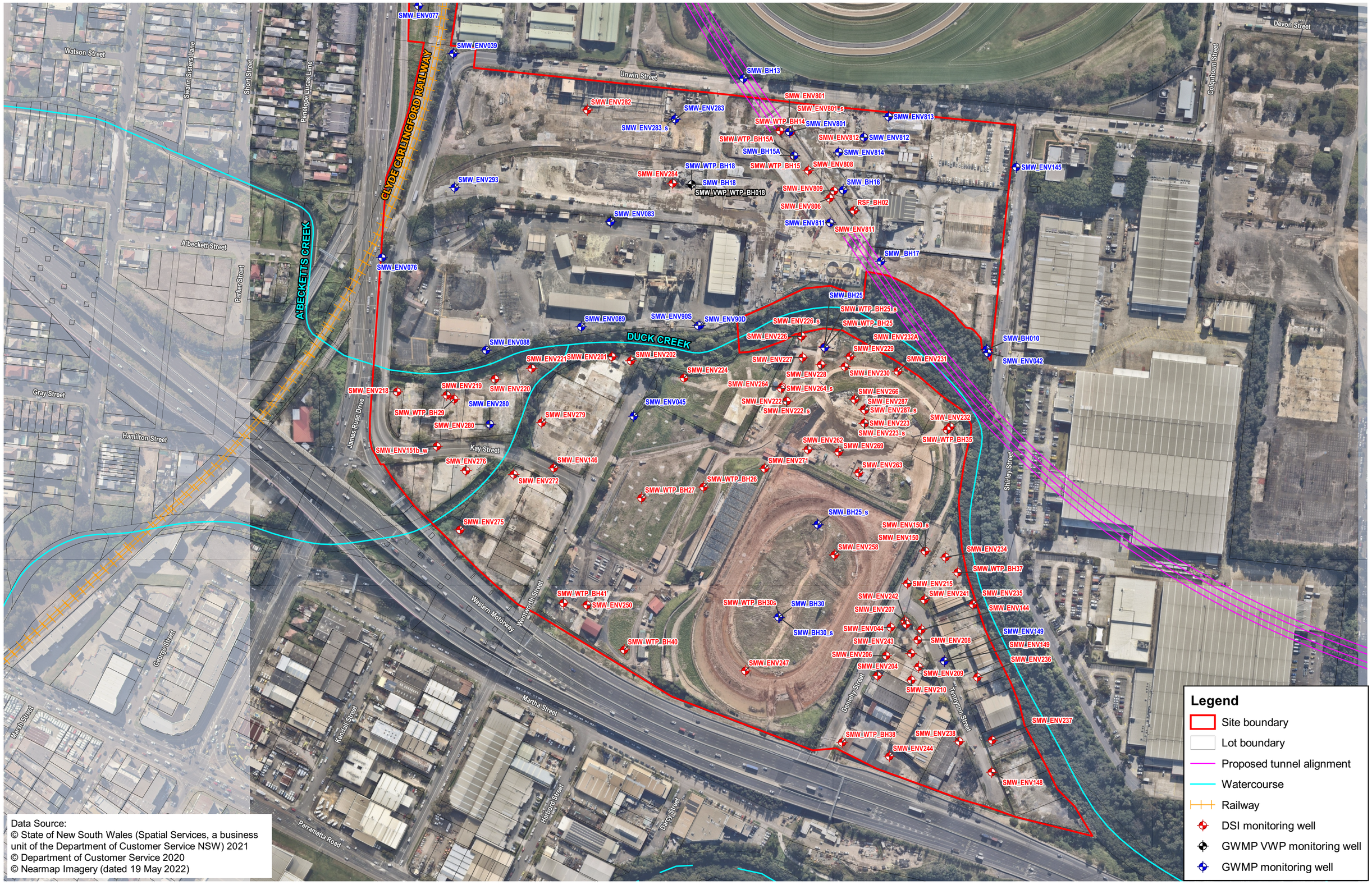
Scale: 1:11,000@ A3

Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Clyde east
Factual Groundwater Monitoring Report 2022

Figure A1
Overview of GWMP and DSI Monitoring Wells

SC210108.01 Rev A 06/09/2022



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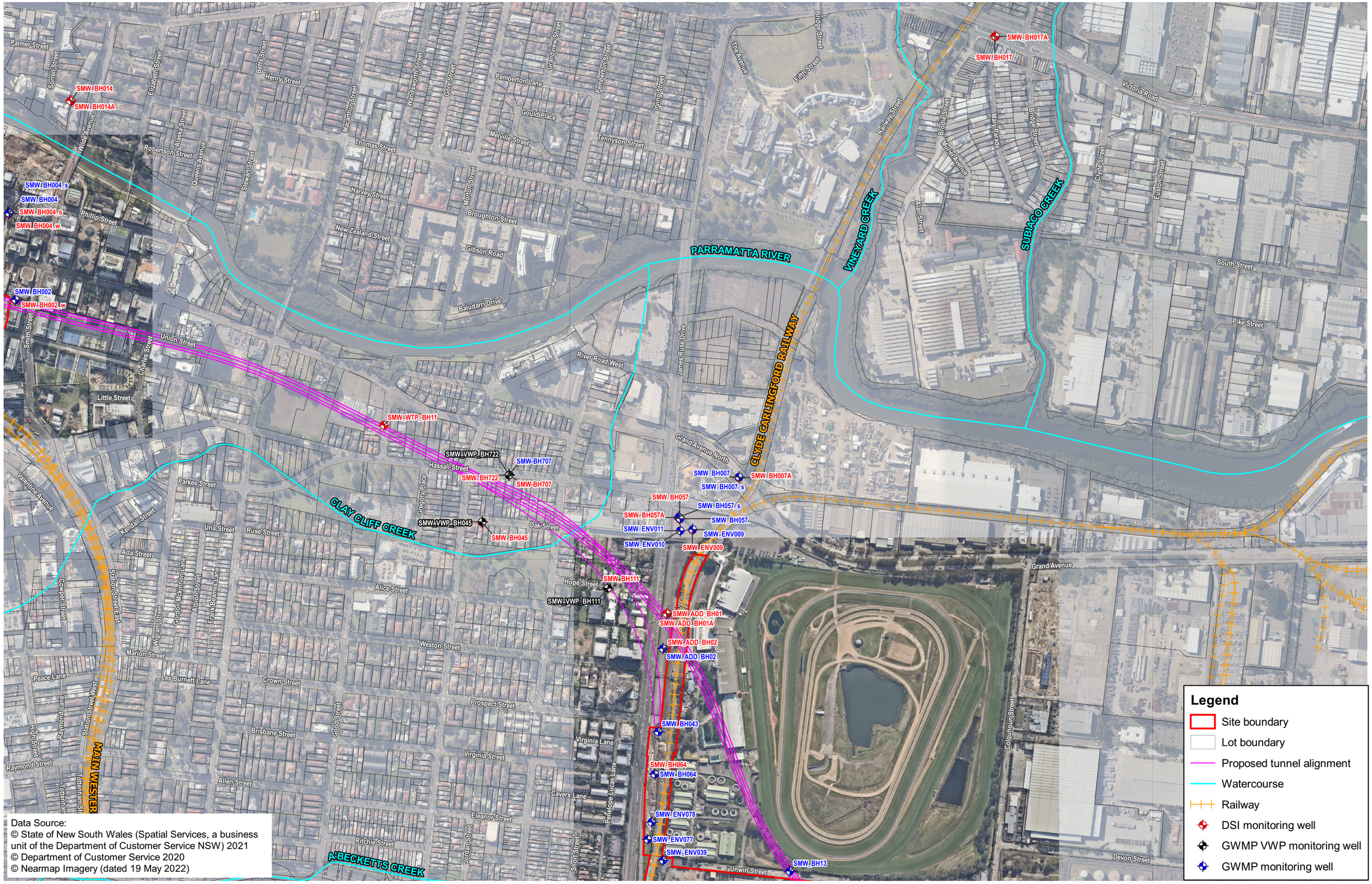
Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Clyde
Factual Groundwater Monitoring Report 2022

Figure A1
Overview of GWMP and DSI Monitoring Wells

SC210108.01 Rev A 06/09/2022



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Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Rosehill
Factual Groundwater Monitoring Report 2022

Figure A1
Overview of GWMP and DSI Monitoring Wells

SC210108.01 Rev A 06/09/2022

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Scale: 1:2,500@ A3

Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Paramatta
Factual Groundwater Monitoring Report 2022

Figure A1
Overview of GWMP and DSI Monitoring Wells

SC210108.01 Rev A 06/09/2022

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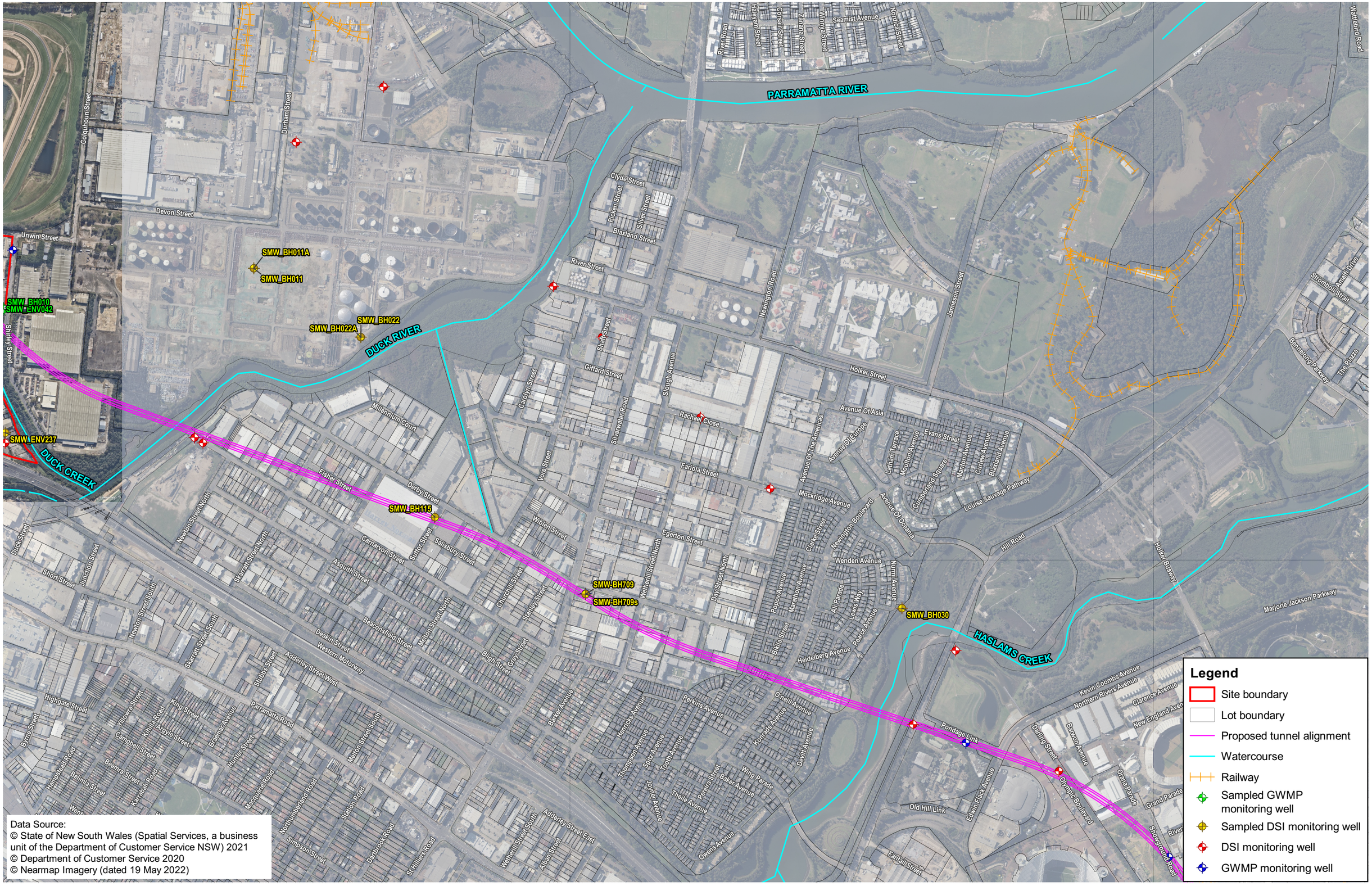
Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Westmead
Factual Groundwater Monitoring Report 2022

Figure A1
Overview of GWMP and DSI Monitoring Wells

SC210108.01 Rev A 06/09/2022



File Path: G:\GIS\Epic Environmental\Projects\SC2021\SC210108.01 Gamuda SMW WTP Enviro Support\Workspaces\Factual Groundwater Monitoring Report 2022\Figure F2 Sampled Monitoring Wells .qgz

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Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Clyde east
Factual Groundwater Monitoring Report 2022

Figure A2
Sampled Monitoring Wells

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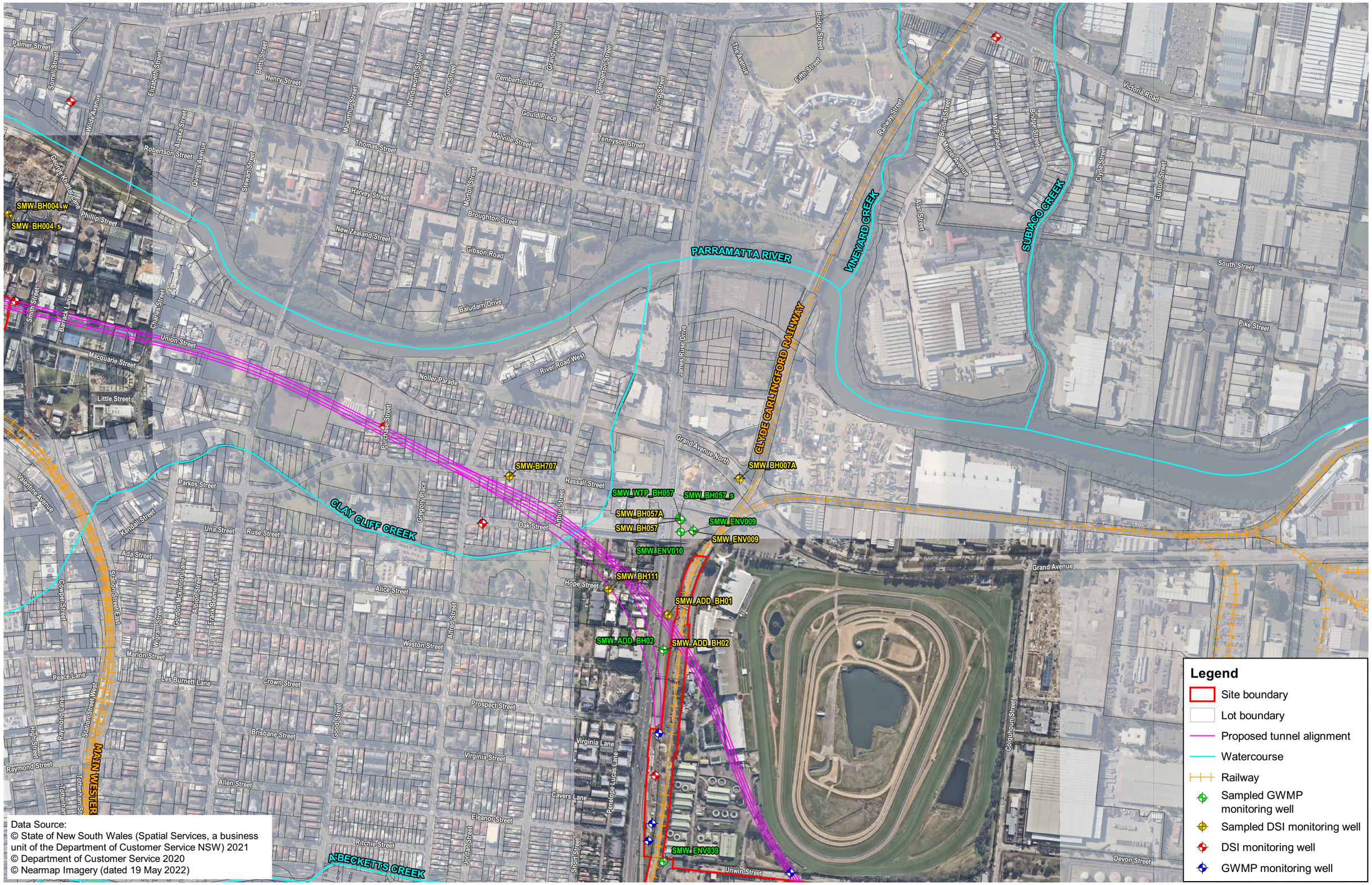
Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Clyde
Factual Groundwater Monitoring Report 2022

Figure A2
Sampled Monitoring Wells

SC210108.01 Rev A 06/09/2022



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Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Rosehill
Factual Groundwater Monitoring Report 2022

Figure A2
Sampled Monitoring Wells

SC210108.01 Rev A 06/09/2022

Data Source:
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File Path: G:\GIS\Epic Environmental\Projects\SC2021\SC210108.01 Gamuda SMW WTP Enviro Support\Workspaces\Factual Groundwater Monitoring Report 2022\Figure F2 Sampled Monitoring Wells .qgz

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Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Paramatta
Factual Groundwater Monitoring Report 2022

Figure A2
Sampled Monitoring Wells

SC210108.01 Rev A 06/09/2022

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Datum: GDA2020 Projection: MGA zone 56

Gamuda Laing O'Rourke Consortium
Sydney Metro West Western Tunnelling Package
Westmead
Factual Groundwater Monitoring Report 2022

Figure A2
Sampled Monitoring Wells

SC210108.01 Rev A 06/09/2022

APPENDIX B TABLES

Table B1 – Baseline DSI Network

Table B2 – Registered Groundwater Bores

Table B3 – Summary of Groundwater Field Parameters

Table B4 – Summary of Groundwater Chemistry Results

Table B5 – Summary of RPDs

Baseline DSI Monitoring Well Network

Rep. Site	Bore ID	Eastings	Northings	Screen Interval	Target Unit	Sample
Clyde and Clyde MSF	RSF_BH01	317243.8	62551837.7	27.80-30.80	Sandstone	N
	RSF_BH02	317326.8	6255115	31-33.90	Sandstone, Siltstone	N
	SMW_ADD_BH01	316929.9	6255847.6	----	----	Y
	SMW_ADD_BH01A	316927.8	6255847.7	----	----	N
	SMW_ADD_BH02	316919.4	6255766.5	13.0-20.5	Siltstone	Y
	SMW_BH007A	317095.8	6256163.5	----	Clayey Sand, Sandy Clay	Y
	SMW_BH011	318260.7	6255100.6	----	Siltstone and Sandstone	Y
	SMW_BH011A	318260.8	6255101.4	----	Clay, Silty Clay	Y
	SMW_BH017	317690.4	6257189	----	----	N
	SMW_BH017A	317692.8	6257189	----	----	N
	SMW_BH020	318675.5	6255680.3	----	Silty Clay	N
	SMW_BH020A	318673.9	6255679.9	----	Silty Clay, Clayey Sand	N
	SMW_BH021	318395.5	6255502.8	----	Siltstone	N
	SMW_BH021A	318395.5	6255503.7	----	Clay, Silty Clay, Sandy Clay	N
	SMW_BH022	318602.6	6254881.2	----	Siltstone	Y
	SMW_BH022A	318601.5	6254881.8	----	Clay, Silty Clay	Y
	SMW_BH023	319216.4	6255043.7	----	Sandstone	N
	SMW_BH024	319372.2	6254881.7	----	Sandstone	N
	SMW_BH027	319687.1	6254623.7	----	----	N
	SMW_BH027A	319686.1	6254625.1	----	----	N
	SMW_BH029	319908.8	6254398.1	----	----	N
	SMW_BH030	320329.6	6254016.7	6.0-9.0	Siltstone	Y
	SMW_BH031	320501.1	6253881.6	----	Siltstone	N
	SMW_BH063	318071.5	6254561.2	----	----	N
	SMW_BH064	316900.3	6255474.8	5.9-8.9	Siltstone	N
	SMW_BH722	316561.6	6256169.5	----	Siltstone and Sandstone	N
	SMW_ENV044	317364.2	6254691	6.80-12.80	Clay	N
	SMW_ENV144	317395.4	6254688.7	9.50-12.50	Clay	Y
	SMW_ENV146	317021.5	6254853.1	----	Clay	N
	SMW_ENV148	317466.9	6254543.7	----	Clay	N
	SMW_ENV149	317418.7	6254656.7	6.0-9.0	Clay	Y
	SMW_ENV150	317399.2	6254768.6	3.0-6.0	Clay	N
	SMW_ENV150_s	317399.2	6254768.6	0.40-1.0	Clay	Y
	SMW_ENV151b_w	316902.6	6254875	3.2 - 6.2	Clay	N
	SMW_ENV200	313817.9	6257205.8	3.20-6.20	Clay	Y
	SMW_ENV201	317080.7	6254966.2	2.50-5.50	Silt, Clay	Y
	SMW_ENV202	317100	6254962.1	2.50-5.50	Silt	Y
	SMW_ENV204	317350.8	6254641.9	4.50-7.49	Clay	Y
	SMW_ENV206	317359.5	6254662.2	1.2-6.0	Clay	Y
	SMW_ENV207	317378.5	6254697.6	1.2-6.0	Clay	Y
	SMW_ENV208	317391.7	6254678.2	1.2-6.0	Clay	Y
	SMW_ENV209	317392.5	6254650.9	1.2-6.0	Clay	Y
	SMW_ENV210	317385.1	6254637.4	1.2-6.0	Clay	Y
	SMW_ENV215	317381.1	6254735.6	4.50-8.0	Clay	N
	SMW_ENV218	316862.2	6254930.5	3.0-5.90	Clay	Y
	SMW_ENV219	316912.7	6254927.1	3.50-6.40	Clay	Y
	SMW_ENV220	316961.7	6254943.4	4.0-6.90	Clay	Y
	SMW_ENV221	316999.1	6254954.4	2.0-5.0	Clay	Y
	SMW_ENV222	317258.4	6254921	2.30-5.30	Clay	Y
	SMW_ENV222_s	317258.4	6254921	0.50-1.90	Clay	N
	SMW_ENV223	317337.4	6254898.7	2.50-5.50	Clay	N
	SMW_ENV223_s	317337.5	6254898.4	0.50-1.50	Clay	Y
	SMW_ENV224	317153.9	6254944.6	0.80-4.50	Clay	Y
	SMW_ENV226	317273.3	6254986.8	5.70-8.60	Silt, Clay	Y
	SMW_ENV226_s	317273.4	6254987.4	1.70-4.70	Sand	N
	SMW_ENV227	317274.561	6254965.39	4.0-10.00	Clay	N
	SMW_ENV228	317293.5	6254958.1	1.50-3.50	Silt, Clay	N
	SMW_ENV229	317322.753	6254966.442	1.0-4.0	Clay	N
	SMW_ENV230	317317.6	6254956.1	1.0-2.50	Clay, Silt	N
	SMW_ENV231	317371.4	6254951.3	1.50-6.0	Sand	N
	SMW_ENV232	317424.588	6254895.048	----	----	N
	SMW_ENV232A	317335.4	6254974.9	1.50-4.50	Clay	N
	SMW_ENV234	317419.9	6254762.3	1.10-5.59	Clay	Y
	SMW_ENV235	317447.8	6254714.4	2.0-7.0	Clay	Y
	SMW_ENV236	317452.3	6254640.3	2.60-7.70	Clay	Y
	SMW_ENV237	317467.3	6254576.3	3.40-8.40	Clay	Y
	SMW_ENV238	317433.7	6254575.1	3.0-5.99	Clay	Y
	SMW_ENV241	317398.5	6254719.1	4.0-7.0	Clay	Y
	SMW_ENV242	317380	6254694.2	1.20-6.0	Clay	Y
	SMW_ENV243	317384.9	6254664.5	1.2-6.0	Clay	Y
	SMW_ENV244	317362.8	6254559.9	2.0-6.50	Clay	N
	SMW_ENV247	317216.3	6254646.8	5.0-11.0	Clay	N
	SMW_ENV250	317055.3	6254713.8	1.5-7.5	Clay	Y
	SMW_ENV258	317307.1	6254764.7	0.80-3.80	Clay	N
	SMW_ENV262	317280	6254871.8	1.3-5.80	Clay	N
	SMW_ENV263	317331.6	6254848.1	1.50-4.50	Clay	N
	SMW_ENV264	317253.7	6254935.6	3.0-6.0	Clay	Y

Rep. Site	Bore ID	Eastings	Northings	Screen Interval	Target Unit	Sample
Clyde and Clyde MSF	SMW_ENV264_s	317252.8	6254934.1	0.80-2.0	Clay	N
	SMW_ENV266	317327.6	6254922.8	1.0-4.0	Clay	N
	SMW_ENV269	317311.2	6254869.3	1.50-4.50	Clay	N
	SMW_ENV271	317236	6254852.5	3.0-6.0	Clay, Sand	N
	SMW_ENV272	316980.8	6254846.5	2.0-6.0	Silt	Y
	SMW_ENV275	316926.2	6254790.2	2.0-7.0	Clay	N
	SMW_ENV276	316932.2	6254850.4	4.0-7.0	Clay	Y
	SMW_ENV279	317009.2	6254899.2	3.30-6.30	Clay	Y
	SMW_ENV280	316956.4	6254897.6	4.0-7.0	Clay	N
	SMW_ENV282	317055.7	6255217.1	1.50-6.0	Clay	N
	SMW_ENV284	317142.4	6255142.5	2.0-6.0	Clay	N
	SMW_ENV287	317337.1	6254912.7	2.0-6.0	Clay	Y
	SMW_ENV287_s	317338	6254912.1	0.50-1.50	Clay	N
	SMW_ENV292	318098.3	6254544.1	23.0-32.0	Siltstone, Sandstone	N
	SMW_ENV312	333128.5	6250727.8	16.0-28.0	Sandstone	N
	SMW_ENV312_s	333128.4	6250730	4.0-9.99	Sandstone	N
	SMW_ENV714	----	----	----	----	N
	SMW_ENV801	317261	6255194.9	----	----	Y
	SMW_ENV801_s	317262.4	6255194.7	0.50-1.50	Clay	N
	SMW_ENV806	317302	6255127.4	1.20-7.20	Clay	N
	SMW_ENV808	317280.4	6255155.6	2.0-8.0	Clay	N
	SMW_ENV809	317306.5	6255134.8	2.0-8.0	Clay, Silt	N
	SMW_ENV811	317302.5	6255102.4	1.0-6.0	Clay	Y
	SMW_ENV812	317336.9	6255189.3	2.0-9.0	Fill, Clay	Y
	SMW_WTP_BH11	316270.722	6256285.51	----	Siltstone and Sandstone	N
	SMW_WTP_BH14	317251.5	6255195.9	2.0-8.0	Clay	N
	SMW_WTP_BH15	317265.533	6255170.186	----	----	N
	SMW_WTP_BH15A	317265.9	6255170.6	13.0-15.95	Clay, Silt	N
	SMW_WTP_BH22	320365.4	6253645.9	19.15-25.15	Clay, Siltstone	N
	SMW_WTP_BH23	320830.5	6253497	24.0-30.0	Clay, Siltstone, Sandstone	N
	SMW_WTP_BH25	317297	6254975.6	7.20-10.20	Clay	Y
	SMW_WTP_BH25_s	317296.6	6254976.2	3.0-6.0	Clay	Y
	SMW_WTP_BH26	317173.8	6254833.7	4.0-10.0	Clay, Siltstone	N
	SMW_WTP_BH27	317110.7	6254822.6	2.0-5.0	Clay	N
	SMW_WTP_BH29	316920.2	6254923	9.10-12.10	Clay, Siltstone	Y
	SMW_WTP_BH30	320329.6	6254016.7	6.0-9.0	Siltstone	N
	SMW_WTP_BH30s	317250.8	6254701.2	2.50-5.40	Clay	N
	SMW_WTP_BH35	317421.6	6254891.8	2.7-6.6	Clay	Y
	SMW_WTP_BH37	317432.3	6254746.9	----	----	N
	SMW_WTP_BH38	317314.8	6254574.1	2.0-6.99	Clay	Y
	SMW_WTP_BH40	317093.2	6254668.2	2.0-8.0	Clay	N
	SMW_WTP_BH41	317031.4	6254715.8	3.0-8.90	Clay	Y
Rosehill	SMW_BH057	316958.3	6256067	----	Sandstone	Y
	SMW_BH057A	316955.7	6256071	----	Sand	Y
	SMW_BH111	316791.4	6255906.9	----	----	Y
	SMW_BH115	318838.7	6254307	----	----	Y
	SMW_ENV009	316987.7	6256041.5	----	Sand, Clayey Sand, Sandy Clayey Gravel	Y
Parramatta	SMW_BH002_w	315413.7	6256576	29.4-32.4	Sandstone	N
	SMW_BH003_s	315255.5	6256613.9	8.50-10.97	Sandy Clay, Sand	Y
	SMW_BH003_w	315256.5	6256613.6	15.0-18.0	Siltstone	Y
	SMW_BH004_s	315398.5	6256776.9	6.50-11.50	Sand	Y
	SMW_BH004_w	315398.7	6256778.1	20.60-23.60	Sandstone	Y
	SMW_BH012	314829.2	6257047	----	----	N
	SMW_BH014	315544.4	6257039	2.0-8.0	Clay	N
	SMW_BH014A	315542	6257039.4	----	----	N
	SMW_BH045	316498.6	6256059.8	----	----	N
	SMW_BH048_s	315342.8	6256836.4	----	Siltstone and Sandstone	Y
	SMW_BH048_w	315343.6	6256836.2	----	Sand	Y
	SMW_BH049_s	315207.2	6256758.9	----	Siltstone and Sandstone	N
	SMW_BH049_w	315207.2	6256758.9	----	Silty Clay and Sandy Clay	N
	SMW-BH707	316561.6	6256169.5	----	----	Y
	SMW-BH709	319319.5	6254061.3	----	----	Y
	SMW-BH709s	319319.6	6254062	----	----	Y
Westmead	SMW_BH001_s	313797.3	6257310.5	8.7 - 11.7	Silty Clay	Y
	SMW_BH001_w	313798.5	6257312	0.7 - 1.5	Siltstone	Y
	SMW_BH008_w	314037	6257152.2	14.0 - 17.0	Siltstone and Sandstone	N
	SMW_BH013	313708	6257124.5	----	Siltstone	Y
	SMW_BH018	314182.2	6257780.4	----	Siltstone	N
	SMW_ENV294	313832.9	6257182.2	----	----	Y
	SMW_ENV297	313813.5	6257167	2.5 - 8.5	Clay	N
	SMW_ENV301	313801.2	6257177.3	2.5 - 5.5	Clay	N
	SMW_ENV301_s	313801	6257176.8	1.2 - 2.0	Clay	N
	SMW_WTP_BH01A	313806.4	6257167.2	2.5 - 7.1	Clay, Siltstone	N
	SMW_WTP_BH03A	313923.9	6257170.8	15.0 - 21.0	Siltstone, Sandstone	N
	SMW_WTP_BH31A	313708.7	6257220.6	4.0 - 8.5	Siltstone	N
	SMW_WTP_BH32A	313763.4	6257203.2	4.0 - 10.10	Siltstone	Y
	SMW-BH701	313817.9	6257205.8	6.0 - 9.0	Siltstone	Y

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		

Summary of Groundwater Field Parameters							
Bore ID	Date	Temperature	pH	Electric Conductivity	ORP or RedOx	DO	DO
		°C		µS/cm	Mv	(ppm)	(% Sat)
SMW_ENV_293	13/07/2022 10:30	_	_	_	_	_	_
SMW_WTP_BH18	13/07/2022 12:00	20.3	5.86	28556	30.2		-1.9
SMW_BH010	13/07/2022 14:00	18.8	6.22	26835	54.6	0.01	0.01
SMW_ENV042	13/07/2022 16:30	18.6	5.74	24274	45.4	0.13	1.6
SMW_ENV045	14/07/2022 09:15	18.9	6.76	4975	67	1.09	11.9
SMW_WTP_BH13	14/07/2022 10:30	16.9	6.99	1325	80.8	0.18	1.8
SMW_WTP_BH25	14/07/2022 13:00	20	5.83	30526	9.4	0.13	1.6
SMW_BH25_s	14/07/2022 14:30	19.6	7.14	3540	-107.6	0.11	1.2
SMW_ENV039	14/07/2022 16:30	19.9	6.27	30759	43.7	0.12	1.5
SMW_WTP_BH30	15/07/2022 09:30	18.5	6.15	30826	55.1	0.09	1.1
SMW_WTP_BH30s	15/07/2022 11:00	18.1	5.96	34413	106.1	0.1	1.3
SMW_BH057_s	15/07/2022 12:30	18.2	6.54	1679	-21.1	0.06	0.6
SMW_WTP_BH057	15/07/2022 14:30	20.5	6.69	8293	25.9	0.09	1.1
SMW_ENV010	18/07/2022 10:00	22.6	6.11	1432	-18.3	0.11	1.2
SMW_ENV009	18/07/2022 12:00	21.4	6.95	1709	-86.5	0.05	0.6
SMW_ENV300_s	19/07/2022 10:00	16.2	4.39	342.9	259.9	3.73	36.9
SMW_ENV300	19/07/2022 11:30	20.4	5.71	3485	206.5	1.28	_
SMW_ENV299	19/07/2022 13:30	21.1	4.87	1746	292.1	1.12	_
SMW_ENV295	19/07/2022 14:00	19.9	4.62	477.2	226.9	0.2	2.1
SMW_ENV083	22/07/2022 08:30	18.4	5.24	11642	132.8	0.26	3
SMW_ENV089	22/07/2022 09:30	17.6	6.68	3496	-23.8	7.78	77.1
SMW_ENV088	22/07/2022 12:30	19.1	6	5362	-2.7	0.3	3
SMW_ENV294	10/08/2022 8:26	19.3	4.75	523	214.7	0.2	_
SMW_ WTP_BH31A	10/08/2022 14:53	19.2	6.96	4033	1922	0.55	_
SMW_ADD_BH02	18/07/2022 14:00	_	_	_	_	_	_
SMW_ENV149	12/07/2022 8:05	18.7	5.87	22284	11.2	0.05	0.7

						Arsenic Speciation			NA		Physico-Chemical & Major Ions														Nutrients											
						Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (AS9)	Arsenic Acid, As (V)	Arsenious Acid, As (III)	pH (Lab)	TDS	Chloride	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Ions Balance	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	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	µg/L	mg/L
EQL						1	1	1	1	1		5	1	1	5	5	5	5	0.5	0.5	0.5	0.5		0.005	0.1	0.2	0.005	0.005	0.005	0.1	0.005	0.01	1	0.1	0.005
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																								0.91											5.5	0.0044
ANZG (2018) Marine Water 99% LOSP Toxicant DGVs																								**0.5**											**0.7**	**0.00014**
PFAS NEMP 2020 Interim Marine 95%																																				
PFAS NEMP 2020 Interim Marine 99%																																				
ANZECC 2000 Default Guideline Values for Estuaries SMWTP Site Specific																											0.015			0.3						
NEPM 2013 Table 1C GILs, Marine Waters																																			*0.7*	*0.0044*
Lab Report Number	**Sample Code**	**Location Code**	**Field ID**	**Date**	**Matrix Type**																															
300303	300303-2	WTP Clyde	SMW_ENV149	12/07/2022	Water	-	-	-	-	-	6.1	16,000	8,900	550	<5	<5	320	320	240	690	3,900	10	-5.0	0.63	0.7	<0.2	<0.005	<0.005	<0.005	0.7	<0.05	<0.01	5	<0.1	<0.050
300470	300470-1	WTP Clyde	ENV_045	14/07/2022	Water	<1	<1	<1	1	<1	-	2,700	1,400	83	<5	<5	280	280	100	98	810	11	3.0	0.39	-	-	<0.005	-	-	0.9	<0.05	<0.01	4	<0.1	<0.005
300470	300470-2	WTP Clyde	WTP_BH13	14/07/2022	Water	<1	<1	<1	<1	<1	-	970	180	66	<5	<5	290	290	18	22	220	9.2	1.0	0.018	-	-	0.01	-	-	0.3	0.005	<0.01		<0.1	<0.005
300470	300470-3	WTP Clyde	WTP_BH25	14/07/2022	Water	<1	<1	<1	<1	<1	-	25,000	10,000	3,800	<5	<5	190	190	380	870	5,700	140	-3.0	1.9	-	-	<0.05	-	-	2.6	<0.005	0.02	5	<0.1	<0.050
300470	300470-4	WTP Clyde	WTP_BH25_s	14/07/2022	Water	<1	<1	<1	<1	<1	-	2,100	350	230	<5	<5	1,400	1,400	240	110	340	26	-7.0	16	-	-	<0.005	-	-	22	<0.005	0.03	8	<0.1	<0.01
300470	300470-5	WTP Clyde	ENV_039	14/07/2022	Water	<1	<1	<1	<1	<1	-	24,000	11,000	1,800	<5	<5	490	490	340	930	5,300	26	-3.0	0.79	-	-	<0.01	-	-	0.9	<0.005	0.14	4	<0.1	<0.050
300573	300573-1	WTP Clyde	SMW_WTP_BH030	15/07/2022	Water	<1	<1	<1	<1	<1	-	21,000	11,000	980	<5	<5	580	580	770	950	6,000	23	4.0	1.3	-	-	0.1	-	-	1.2	<0.005	0.03	5	<0.1	<0.005
300573	300573-2	WTP Clyde	SMW_WTP_BH030_S	15/07/2022	Water	<1	<1	<1	<1	<1	-	29,000	12,000	1,600	<5	<5	310	310	570	1,400	6,100	16	3.0	0.12	-	-	0.006	-	-	0.1	<0.005	0.01		<0.1	<0.005
300573	300573-3	WTP Clyde	SMW_BH057_s	15/07/2022	Water	<1	<1	<1	<1	<1	-	1,100	220	300	<5	<5	230	230	36	66	220	19	0	0.16	-	-	0.02	-	-	0.4	<0.005	<0.01	2	<0.1	<0.005
300573	300573-4	WTP Clyde	SMW_BH057	15/07/2022	Water	<1	<1	<1	<1	2	-	5,400	2,500	26	<5	<5	850	850	260	220	1,200	37	-3.0	2.3	-	-	0.01	-	-	2.4	<0.005	<0.01	3	<0.1	<0.005
300679	300679-1	WTP Clyde	SMW_ENV010	18/07/2022	Water	<1	<1	<1	4	21	-	940	150	260	<5	<5	230	230	10	26	200	22	-7.0	4.1	-	-	<0.005	-	-	5.5	<0.005	<0.01	20	<0.1	<0.050
300679	300679-2	WTP Clyde	SMW_ENV009	18/07/2022	Water	<1	<1	<1	<1	5	-	830	180	51	<5	<5	580	580	86	43	150	16	-8.0	9.9	-	-	0.01	-	-	13	<0.005	<0.01	5	<0.1	<0.005
301795	301795-7	WTP Clyde	SMW_ADD_BH02	28/07/2022	Water	-	-	-	-	-	5.8	4,200	1,600	130	<5	<5	330	330	160	140	600	19	-8.0	0.43	1.2	0.8	0.1	0.14	0.008	1.4	0.03	0.06	<1	0.2	-
Statistics																																				
Number of Results						**11**	**11**	**11**	**11**	**11**	**2**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**2**	**2**	**13**	**2**	**2**	**13**	**13**	**13**	**13**	**13**	**13**
Number of Detects						**0**	**0**	**0**	**2**	**3**	**2**	**13**	**13**	**13**	**0**	**0**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**2**	**1**	**7**	**1**	**1**	**13**	**2**	**6**	**10**	**1**	**0**
Minimum Concentration						**<1**	**<1**	**<1**	**1**	**<1**	**5.8**	**830**	**150**	**26**	**<5**	**<5**	**190**	**190**	**10**	**22**	**150**	**9.2**	**-8**	**0.018**	**0.7**	**<0.2**	**<0.005**	**<0.005**	**<0.005**	**0.1**	**0.005**	**0.01**	**<1**	**<0.1**	**<0.005**
Minimum Detect						**ND**	**ND**	**ND**	**1**	**2**	**5.8**	**830**	**150**	**26**	**ND**	**ND**	**190**	**190**	**10**	**22**	**150**	**9.2**	**-8**	**0.018**	**0.7**	**0.8**	**0.006**	**0.14**	**0.008**	**0.1**	**0.005**	**0.01**	**2**	**0.2**	**ND**
Maximum Concentration						**<1**	**<1**	**<1**	**4**	**21**	**6.1**	**29,000**	**12,000**	**3,800**	**<5**	**<5**	**1,400**	**1,400**	**770**	**1,400**	**6,100**	**140**	**4**	**16**	**1.2**	**0.8**	**0.1**	**0.14**	**0.008**	**22**	**<0.05**	**0.14**	**20**	**0.2**	**<0.05**
Maximum Detect						**ND**	**ND**	**ND**	**4**	**21**	**6.1**	**29,000**	**12,000**	**3,800**	**ND**	**ND**	**1,400**	**1,400**	**770**	**1,400**	**6,100**	**140**	**4**	**16**	**1.2**	**0.8**	**0.1**	**0.14**	**0.008**	**22**	**0.03**	**0.14**	**20**	**0.2**	**ND**
Average Concentration *						**0.5**	**0.5**	**0.5**	**0.86**	**2.9**	**5.9**	**10,249**	**4,575**	**760**	**2.5**	**2.5**	**468**	**468**	**247**	**428**	**2,365**	**29**	**-2.5**	**2.9**	**0.95**	**0.45**	**0.023**	**0.071**	**0.0052**	**4**	**0.0065**	**0.025**	**4.8**	**0.062**	**0.01**
Median Concentration *						**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**5.95**	**4,200**	**1,600**	**260**	**2.5**	**2.5**	**320**	**320**	**240**	**140**	**810**	**19**	**-3**	**0.79**	**0.95**	**0.45**	**0.01**	**0.07125**	**0.00525**	**1.2**	**0.0025**	**0.005**	**4**	**0.05**	**0.0025**
Standard Deviation *						**0**	**0**	**0**	**1.1**	**6.2**	**0.21**	**10,938**	**5,034**	**1,089**	**0**	**0**	**337**	**337**	**226**	**472**	**2,566**	**34**	**4.4**	**4.8**	**0.35**	**0.49**	**0.035**	**0.097**	**0.0039**	**6.4**	**0.0094**	**0.038**	**5.1**	**0.042**	**0.011**
95% UCL (Student's-t) *						**0.5**	**0.5**	**0.5**	**1.438**	**6.273**	**6.897**	**15,656**	**7,064**	**1,298**	**2.5**	**2.5**	**634.3**	**634.3**	**358.6**	**661.5**	**3,633**	**45.73**	**-0.378**	**5.277**	**2.528**	**2.66**	**0.0401**	**0.505**	**0.0226**	**7.139**	**0.0112**	**0.0439**	**7.317**	**0.0821**	**0.0159**
% of Detects						**0**	**0**	**0**	**18**	**27**	**100**	**100**	**100**	**100**	**0**	**0**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**50**	**54**	**50**	**50**	**100**	**15**	**46**	**77**	**8**	**0**
% of Non-Detects						**100**	**100**	**100**	**82**	**73**	**0**	**0**	**0**	**0**	**100**	**100**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	**46**	**50**	**50**	**0**	**85**	**54**	**23**	**92**	**100**

Metals									
Chromium (III+VI) (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Silicon	Zinc (filtered)
µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L
1	1	0.01	1	0.005	0.05	1	0.05	200	1
	1.3		4.4		0.4	70			15
	0.3		2.2		0.1	7			7
	1.3		4.4		0.1	7			15
<1	<1	20	<1	0.35	<0.05	10	<0.05	10,000	12
<1	5	0.88	<1	0.11	<0.05	2	0.1	-	43
<1	2	0.01	<1	0.013	<0.05	-	0.08	-	8
1	<1	310	<1	0.82	<0.05	13	<0.05	-	370
<1	<1	17	<1	0.31	<0.05	-	0.1	-	-
<1	1	12	<1	1.6	<0.05	2	<0.05	-	5
<1	2	12	<1	3.2	<0.05	16	<0.05	-	18
<1	1	0.08	<1	2	<0.05	25	<0.05	-	50
<1	<1	7.7	<1	1.4	<0.05	2	<0.05	-	4
<1	<1	0.02	<1	0.64	<0.05	16	<0.05	-	4
<1	2	46	<1	1.3	<0.05	8	0.07	-	4
<1	<1	24	<1	0.96	<0.05	2	0.4	-	<1
5	260	0.25	2	0.19	<0.05	200	0.07	3,300	790
13	13	13	13	13	13	13	13	2	13
2	7	13	1	13	0	11	6	2	11
1	1	0.01	<1	0.013	<0.05	<1	<0.05	3,300	<1
1	1	0.01	2	0.013	ND	2	0.07	3,300	4
5	260	310	2	3.2	<0.05	200	0.4	10,000	790
5	260	310	2	3.2	ND	200	0.4	10,000	790
0.88	21	35	0.62	0.99	0.025	23	0.077	6,650	101
0.5	1	12	0.5	0.82	0.025	8	0.025	6,650	8
1.2	72	84	0.42	0.91	0	54	0.1	4,738	230
1.5	56.7	76.03	0.821	1.442	0.025	49.43	0.127	27,801	214.3
15	54	100	8	100	0	85	46	100	85
85	46	0	92	0	100	15	54	0	15

BTEX						
Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Naphthalene	Naphthalene (BTEX)
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	1	1	2	1	1	1
700	180	80			70	70
500	110	50			50	50
500					50	50
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
6	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	2	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
13	14	13	13	13	13	13
2	2	0	0	0	0	0
<1	<1	<1	<2	<1	<1	<1
6	2	ND	ND	ND	ND	ND
6	2	<1	<2	<1	<1	<1
6	2	ND	ND	ND	ND	ND
1.3	0.71	0.5	1	0.5	0.5	0.5
0.5	0.5	0.5	1	0.5	0.5	0.5
1.5	0.42	0	0	0	0	0
2.231	0.972	0.5	1	0.5	0.5	0.5
14	14	0	0	0	0	0
86	86	100	100	100	100	100

TRH						
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
10	10	50	50	100	100	50
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
4,100	4,100	210	210	780	<100	990
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
<10	<10	390	390	<100	<100	390
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
<10	<10	<50	<50	<100	<100	<50
13	13	13	13	13	13	13
1	1	2	2	1	0	2
<10	<10	<50	<50	<100	<100	<50
4,100	4,100	210	210	780	ND	390
4,100	4,100	390	390	780	<100	990
4,100	4,100	390	390	780	ND	990
320	320	67	67	106	50	127
5	5	25	25	50	50	25
1,136	1,136	110	110	202	0	278
881.4	881.4	121.5	121.5	206.2	50	264.8
8	8	15	15	8	0	15
92	92	85	85	92	100	85

MAH								
1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	1	1	1	1	1	1	1	1
		30						
		20						
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1
13	13	13	13	13	13	13	13	13
0	0	0	0	0	0	0	0	0
<1	<1	<1	<1	<1	<1	<1	<1	<1
ND	ND	ND	ND	ND	ND	ND	ND	ND
<1	<1	<1	<1	<1	<1	<1	<1	<1
ND	ND	ND	ND	ND	ND	ND	ND	ND
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0	0	0	0	0	0	0	0	0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0	0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100	100

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
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	2	1	1	1	1	1	1	1	1
	5	80							55
	3	20							15
		20							
<1	-	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	4	2	34	82	<1	<1	<1	1,500
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
<1	-	<1	<1	<1	<1	<1	<1	<1	<1
13	11	14	14	14	14	13	13	13	13
0	0	2	2	2	2	0	0	0	1
<1	<2	<1	<1	<1	<1	<1	<1	<1	<1
ND	ND	4	2	34	82	ND	ND	ND	1,500
<1	<2	4	3	36	88	<1	<1	<1	1,500
ND	ND	4	3	36	88	ND	ND	ND	1,500
0.5	1	1	0.79	5.4	13	0.5	0.5	0.5	116
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0	0	0.97	0.75	13	31	0	0	0	416
0.5	1	1.602	1.142	11.36	27.11	0.5	0.5	0.5	321.4
0	0	14	14	14	14	0	0	0	8
100	100	86	86	86	86	100	100	100	92

		PAH																				TPH					Phenols														
Hexachlorobenzene	Pentachlorobenzene	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	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	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
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	µg/L	mg/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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.2	2	0.002	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.005	0.001	10	50	100	100	50	2	2	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	10
0.1	2								0.4		0.2				1.4			2																							
0.05	1.5								0.01		0.1				1			0.6																							
<0.2	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	4,100	120	880	<100	1,000	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	6	<4	<2	<20	<20	<10
<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	380	<100	<100	380	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<0.2	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[1]	<10	<50	<100	<100	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	11	13	11	11	11	11	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1	2	1	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	4,100	120	880	ND	380	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	ND	ND	ND
<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0	4,100	380	880	<100	1,000	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	6	<2	<4	<2	<20	<20	<10
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	4,100	380	880	ND	1,000	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	ND	ND	ND
0.45	1	0.001	1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0025	0	320	60	114	50	127	1	1	0.01	1	0.00025	1	1	1	1.5	1	2	1	10	10	5
0.1	1	0.001	1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0025	0	5	25	50	50	25	1	1	0.01	1	0.00025	1	1	1	1	1	2	1	10	10	5
0.46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,136	100	230	0	280	0	0	0	0	0	0	0	0	1.5	0	0	0	0	0	0
0.671	1	0.001	1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0025	0	881.4	108.9	227.6	50	265.7	1	1	0.01	1	0.00025	1	1	1	2.278	1	2	1	10	10	5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	8	15	8	0	15	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	92	85	92	100	85	100	100	100	100	100	100	100	100	91	100	100	100	100	100	100

				Organochlorine Pesticides																				Organophosphorous Pesticides																				
Pidoram	Pentachlorophenol	Phenolics Total	Phenol	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos-methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Parathion	Phorate
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	10	50	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	5	0.2	0.2	2	2	0.2	2	2	2	0.2	2
	22		400														0.008									0.009																		
	11		270														0.004									0.0005																		
	11		*400*														*0.004*									*0.009*																		

-	-	<50	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-
<1	<10	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
<1	<10	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
<1	<10	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
<1	<10	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
<1	<10	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2
<1	<10	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2
<1	<10	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2
<1	<10	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2
<1	<10	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2
-	-	<50	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	-

11	**11**	**2**	**11**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**11**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**11**	**13**	**13**	**13**	**11**	**11**	**13**	**13**	**11**	**11**	**13**	**11**	**11**	**11**	**13**	**11**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<1	**<10**	**<50**	**<2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.0002**	**<2**	**<0.2**	**<0.2**	**<0.2**	**<2**	**<5**	**<0.2**	**<0.2**	**<2**	**<2**	**<0.2**	**<2**	**<2**	**<2**	**<0.2**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<1	**<10**	**<50**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<2**	**<5**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.5	**5**	**25**	**1**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**1**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.45**	**0.00045**	**1**	**0.45**	**0.45**	**0.45**	**1**	**2.5**	**0.45**	**0.45**	**1**	**1**	**0.45**	**1**	**1**	**1**	**0.45**	**1**
0.5	**5**	**25**	**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**	**0.1**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0001**	**1**	**0.1**	**0.1**	**0.1**	**1**	**2.5**	**0.1**	**0.1**	**1**	**1**	**0.1**	**1**	**1**	**1**	**0.1**	**1**
0	**0**	**0**	**0**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.46**	**0.00046**	**0**	**0.46**	**0.46**	**0.46**	**0**	**0**	**0.46**	**0.46**	**0**	**0**	**0.46**	**0**	**0**	**0**	**0.46**	**0**
0.5	**5**	**25**	**1**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**1**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.671**	**0.00067143**	**1**	**0.671**	**0.671**	**0.671**	**1**	**2.5**	**0.671**	**0.671**	**1**	**1**	**0.671**	**1**	**1**	**1**	**0.671**	**1**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

		Pesticides	Perfluoroalkyl Sulfonic Acids							Perfluoroalkyl Carboxylic Acid										
Ronnel	Saltrole	Carbazole	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)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.2	5	5	0.01	0.01	0.0002	0.01	0.0002	0.02	0.0002	0.02	0.02	0.01	0.01	0.0002	0.01	0.02	0.02	0.05	0.1	0.5
							0.11							220						
							0.0023							19						

<0.2	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	<0.0002	<0.0002
<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	<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	**0.01**	**0.05**
<2	<5	<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	<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	<0.01	<0.01
<2	<5	<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	<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	<0.01	<0.01
<2	<5	<5	<0.01	<0.01	**0.04**	<0.01	<0.01	<0.02	**0.04**	<0.02	<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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	**0.04**	**0.13**
<2	<5	<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	<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	<0.01	<0.01
<0.2	<5	<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	<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	<0.01	<0.01
<0.2	<5	<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	<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	<0.01	<0.01
<0.2	<5	<5	**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	<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**
<0.2	<5	<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	<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	<0.01	<0.01
<0.2	<5	<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	<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	<0.01	**0.01**
<0.2	<5	<5	**0.05**	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	**0.02**	<0.02	**0.02**	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5	<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	**0.09**
<0.2	-	-	-	-	<0.0002	-	0.0037	-	**0.0037**	-	-	-	-	**0.0025**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.17**	<0.0004	-	**0.0062**	**0.17**

13	**11**	**11**	**11**	**11**	**13**	**11**	**13**	**11**	**13**	**11**	**11**	**11**	**11**	**13**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**13**	**13**	**11**	**13**	**13**
0	**0**	**0**	**3**	**0**	**2**	**0**	**2**	**0**	**3**	**3**	**1**	**2**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**6**
<0.2	**<5**	**<5**	**0.01**	**<0.01**	**<0.0002**	**<0.01**	**<0.0002**	**<0.02**	**<0.0002**	**0.02**	**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**	**<0.5**	**<0.02**	**<0.02**	**<0.01**	**<0.0004**	**<0.0004**	**<0.02**	**<0.0002**	**<0.0002**
ND	**ND**	**ND**	**0.01**	**ND**	**0.04**	**ND**	**0.0037**	**ND**	**0.0037**	**0.02**	**0.02**	**0.02**	**0.02**	**0.0025**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.17**	**ND**	**ND**	**0.0062**	**0.01**
<2	**<5**	**<5**	**0.05**	**<0.01**	**0.05**	**<0.01**	**0.02**	**<0.02**	**0.07**	**0.05**	**0.02**	**0.02**	**0.05**	**0.04**	**<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**	**0.17**	**<0.02**	**<0.02**	**0.04**	**0.22**
ND	**ND**	**ND**	**0.05**	**ND**	**0.05**	**ND**	**0.02**	**ND**	**0.07**	**0.05**	**0.02**	**0.02**	**0.05**	**0.04**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.17**	**ND**	**ND**	**0.04**	**0.22**
0.45	**2.5**	**2.5**	**0.011**	**0.005**	**0.01**	**0.005**	**0.0057**	**0.01**	**0.012**	**0.017**	**0.011**	**0.0077**	**0.01**	**0.0087**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**	**0.05**	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.017**	**0.0085**	**0.01**	**0.01**	**0.054**
0.1	**2.5**	**2.5**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.01**	**0.005**	**0.01**	**0.01**	**0.005**	**0.005**	**0.005**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**	**0.05**	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.005**	**0.01**	**0.01**	**0.005**	**0.005**
0.46	**0**	**0**	**0.014**	**0**	**0.016**	**0**	**0.0045**	**0**	**0.02**	**0.014**	**0.003**	**0.0061**	**0.014**	**0.011**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.046**	**0.0037**	**0**	**0.013**	**0.075**
0.671	**2.5**	**2.5**	**0.0184**	**0.005**	**0.0181**	**0.005**	**0.00791**	**0.01**	**0.0221**	**0.025**	**0.0126**	**0.011**	**0.018**	**0.0139**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**	**0.05**	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.04**	**0.0103**	**0.01**	**0.017**	**0.0909**
0	**0**	**0**	**27**	**0**	**15**	**0**	**15**	**0**	**23**	**27**	**9**	**18**	**18**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**31**	**46**
100	**100**	**100**	**73**	**100**	**85**	**100**	**85**	**100**	**77**	**73**	**91**	**82**	**82**	**69**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**92**	**100**	**100**	**69**	**54**

	Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				PFAS Totals	
	Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	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)[3]	Sum of PFAS
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.1	0.05	0.1	0.05	0.5	0.02	0.02	0.01	0.0004	0.0004	0.02		0.0002	0.0002

-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	<0.0002	<0.0002
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	**0.01**	**0.05**
<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
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	**0.04**	**0.13**
<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
<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
<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**
<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
<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**
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	**0.09**
-	-	-	-	-	-	-	-	**0.17**	<0.0004	-	**0.0062**	**0.17**

11	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**13**	**13**	**11**	**13**	**13**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**6**
<0.1	**<0.05**	**<0.1**	**<0.05**	**<0.5**	**<0.02**	**<0.02**	**<0.01**	**<0.0004**	**<0.0004**	**<0.02**	**<0.0002**	**<0.0002**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.17**	**ND**	**ND**	**0.0062**	**0.01**
<0.1	**<0.05**	**<0.1**	**<0.05**	**<0.5**	**<0.02**	**<0.02**	**<0.01**	**0.17**	**<0.02**	**<0.02**	**0.04**	**0.22**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.17**	**ND**	**ND**	**0.04**	**0.22**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.017**	**0.0085**	**0.01**	**0.01**	**0.054**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.005**	**0.01**	**0.01**	**0.005**	**0.005**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.046**	**0.0037**	**0**	**0.013**	**0.075**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.04**	**0.0103**	**0.01**	**0.017**	**0.0909**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**31**	**46**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**92**	**100**	**100**	**69**	**54**

					Arsenic Speciation			NA		Physico-Chemical & Major Ions																
					Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Arsenic Acid, As (V)	Arsenious Acid, As (III)	Redox Potential (Lab)	pH (Lab)	Dissolved Oxygen	TDS	Chloride	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Ionic Balance	Ammonia as N (filtered)
					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	mg/L	mg/L	mg/L	mg/L	%	mg/L
EQL					1	1	1	1	1			0.1	5	1	1	5	5	5	5	0.5	0.5	0.5	0.5		0.005
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																									0.91
ANZG (2018) Marine Water 99% LOSP Toxicant DGVs																									0.5
PFAS NEMP 2020 Interim Marine 95%																									
PFAS NEMP 2020 Interim Marine 99%																									
ANZECC 2000 Default Guideline Values for Estuaries SMWTP Site Specific																									
NEPM 2013 Table 1C GILs, Marine Waters																									
Sample Code	**Location Code**	**Field ID**	**Date**	**Matrix Type**																					
300546-1	**WTP Rosehill**	**ENV_293**	**13/07/2022**	**Water**	-	-	-	-	-	**101**	**6.1**	**9.1**	**9,100**	**3,900**	**900**	<5	<5	**200**	**200**	**120**	**330**	**2,000**	**11**	**-4.0**	**0.18**
300546-2	**WTP Rosehill**	**WTP_BH18**	**13/07/2022**	**Water**	-	-	-	-	-	**-15**	**6.0**	**8.3**	**21,000**	**9,900**	**1,200**	<5	<5	**250**	**250**	**270**	**810**	**4,700**	**15**	**-4.0**	**1.1**
300546-3	**WTP Rosehill**	**SMW_BH010**	**13/07/2022**	**Water**	-	-	-	-	-	**171**	**6.3**	**7.8**	**23,000**	**9,300**	**740**	<5	<5	**710**	**710**	**930**	**730**	**3,600**	**76**	**-4.0**	**7.1**
300546-4	**WTP Rosehill**	**ENV_042**	**13/07/2022**	**Water**	-	-	-	-	-	**123**	**5.5**	**6.3**	**18,000**	**8,400**	**1,000**	<5	<5	**77**	**77**	**190**	**700**	**3,800**	**15**	**-6.0**	**1.4**
301190-1	**WTP Rosehill**	**SMW_ENV083**	**22/07/2022**	**Water**	<1	<1	<1	<1	<1	-	-	-	**4,200**	**3,200**	**540**	<5	<5	**80**	**80**	**56**	**160**	**1,200**	**4**	**-19**	**0.23**
301190-2	**WTP Rosehill**	**SMW_ENV089**	**22/07/2022**	**Water**	<1	<1	<1	<1	<1	-	-	-	**1,000**	**280**	**56**	<5	<5	**440**	**440**	**92**	**160**	**1,800**	**180**	**70**	**17**
301190-3	**WTP Rosehill**	**SWM_EN088**	**22/07/2022**	**Water**	<1	<1	<1	**16**	**25**	-	-	-	**3,300**	**570**	**1,600**	<5	<5	**96**	**96**	**43**	**29**	**200**	**70**	**-54**	**6.4**
Statistics																									
Number of Results					**3**	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
Number of Detects					**0**	**0**	**0**	**1**	**1**	**4**	**4**	**4**	**7**	**7**	**7**	**0**	**0**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
Minimum Concentration					**<1**	**<1**	**<1**	**<1**	**<1**	**-15**	**5.5**	**6.3**	**1,000**	**280**	**56**	**<5**	**<5**	**77**	**77**	**43**	**29**	**200**	**4**	**-54**	**0.18**
Minimum Detect					**ND**	**ND**	**ND**	**16**	**25**	**-15**	**5.5**	**6.3**	**1,000**	**280**	**56**	**ND**	**ND**	**77**	**77**	**43**	**29**	**200**	**4**	**-54**	**0.18**
Maximum Concentration					**<1**	**<1**	**<1**	**16**	**25**	**171**	**6.3**	**9.1**	**23,000**	**9,900**	**1,600**	**<5**	**<5**	**710**	**710**	**930**	**810**	**4,700**	**180**	**70**	**17**
Maximum Detect					**ND**	**ND**	**ND**	**16**	**25**	**171**	**6.3**	**9.1**	**23,000**	**9,900**	**1,600**	**ND**	**ND**	**710**	**710**	**930**	**810**	**4,700**	**180**	**70**	**17**
Average Concentration *					**0.5**	**0.5**	**0.5**	**5.7**	**8.7**	**95**	**6**	**7.9**	**11,371**	**5,079**	**862**	**2.5**	**2.5**	**265**	**265**	**243**	**417**	**2,471**	**53**	**-3**	**4.8**
Median Concentration *					**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**112**	**6.05**	**8.05**	**9,100**	**3,900**	**900**	**2.5**	**2.5**	**200**	**200**	**120**	**330**	**2,000**	**15**	**-4**	**1.4**
Standard Deviation *					**0**	**0**	**0**	**8.9**	**14**	**79**	**0.34**	**1.2**	**9,139**	**4,090**	**491**	**0**	**0**	**235**	**235**	**313**	**322**	**1,605**	**63**	**37**	**6.1**
95% UCL (Student's-t) *					**0.5**	**0.5**	**0.5**	**20.75**	**32.51**	**187.9**	**6.375**	**9.262**	**18,084**	**8,083**	**1,223**	**2.5**	**2.5**	**437.3**	**437.3**	**473**	**653.6**	**3,650**	**99.45**	**24.15**	**9.262**
% of Detects					**0**	**0**	**0**	**33**	**33**	**100**	**100**	**100**	**100**	**100**	**100**	**0**	**0**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
% of Non-Detects					**100**	**100**	**100**	**67**	**67**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**100**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Nutrients						Metals														BTEX							TRH				
Kjeldahl Nitrogen Total	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)	Chromium (Trivalent)	Chromium (III+VI) (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Naphthalene	Naphthalene (BTEX)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.1	0.005	0.005	0.005	0.1	0.005	0.01	1	0.1	0.001	0.005	1	1	0.01	1	0.005	0.05	1	0.05	1	1	1	1	2	1	1	1	10	10	50	50	100
								5.5	0.0044	0.027		1.3		4.4		0.4	70		15	700	180	80			70	70					
								0.7	0.00014	0.0077		0.3		2.2		0.1	7		7	500	110	50			50	50					
	0.015			0.3																											
								0.7	0.0044	0.027		1.3		4.4		0.1	7		15	500					50	50					

0.2	-	1.0	0.12	1.4	0.007	<0.01	<1	0.1	<0.001	<0.005	<1	1	-	<1	1.1	<0.05	7	<0.05	6	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100
1	-	<0.005	<0.005	1	<0.005	<0.01	1	<0.1	<0.001	<0.005	<1	1	-	<1	0.5	<0.05	8	<0.05	23	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100
8.2	-	<0.005	<0.005	8.2	<0.005	0.04	<1	<0.1	<0.001	<0.005	<1	860	-	<1	0.66	<0.05	2	<0.05	12	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100
1.4	-	0.007	0.008	1.4	<0.005	<0.01	3	<0.1	<0.001	<0.005	<1	290	-	<1	0.23	<0.05	25	<0.05	39	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100
-	<0.01	-	-	0.4	<0.005	0.02	<1	<0.1	<0.050	-	<1	2	37	<1	0.15	<0.05	9	<0.05	24	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100
-	0.03	-	-	13	<0.05	0.01	9	<0.1	<0.005	-	3	<1	480	<1	1.4	<0.05	<1	0.4	<1	<1	<1	<1	<2	<1	<1	<10	<100	<10	110	110	500
-	0.02	-	-	7.9	<0.05	0.05	41	<0.1	<0.050	-	4	<1	340	<1	0.33	<0.05	2	0.09	35	<1	<1	<1	<2	<1	<1	<10	<100	<10	<50	<50	<100

4	3	4	4	7	7	7	7	7	7	4	7	7	3	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
4	2	2	2	7	1	4	4	1	0	0	2	5	3	0	7	0	6	2	6	0	0	0	0	0	0	0	0	0	1	1	1
0.2	<0.01	<0.005	<0.005	0.4	<0.005	0.01	1	0.1	<0.001	<0.005	<1	1	37	<1	0.15	<0.05	<1	<0.05	<1	<1	<1	<1	<2	<1	<1	<1	<10	<10	<50	<50	<100
0.2	0.02	0.007	0.008	0.4	0.007	0.01	1	0.1	ND	ND	3	1	37	ND	0.15	ND	2	0.09	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	110	500
8.2	0.03	1	0.12	13	<0.05	0.05	41	0.1	<0.05	<0.005	4	860	480	<1	1.4	<0.05	25	0.4	39	<1	<1	<1	<2	<1	<1	<10	<100	<10	110	110	500
8.2	0.03	1	0.12	13	0.007	0.05	41	0.1	ND	ND	4	860	480	ND	1.4	ND	25	0.4	39	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	110	500
2.7	0.018	0.25	0.033	4.8	0.0096	0.019	7.9	0.057	0.0078	0.0025	1.4	165	286	0.5	0.62	0.025	7.6	0.088	20	0.5	0.5	0.5	1	0.5	0.5	1.8	18	5	37	37	114
1.2	0.02	0.00475	0.00525	1.4	0.0025	0.01	1	0.05	0.0005	0.0025	0.5	1	340	0.5	0.5	0.025	7	0.025	23	0.5	0.5	0.5	1	0.5	0.5	0.5	5	5	25	25	50
3.7	0.013	0.5	0.058	4.9	0.011	0.019	15	0.019	0.012	0	1.5	325	226	0	0.47	0	8.4	0.14	14	0	0	0	0	0	0	2.2	22	0	32	32	170
7.054	0.0395	0.839	0.101	8.372	0.0174	0.0329	18.87	0.071	0.0164	0.0025	2.453	403.6	667.4	0.5	0.968	0.025	13.78	0.191	30.53	0.5	0.5	0.5	1	0.5	0.5	3.398	33.98	5	60.74	60.74	239.2
100	67	50	50	100	14	57	57	14	0	0	29	71	100	0	100	0	86	29	86	0	0	0	0	0	0	0	0	0	14	14	14
0	33	50	50	0	86	43	43	86	100	100	71	29	0	100	0	100	14	71	14	100	100	100	100	100	100	100	100	100	86	86	86

		MAH									Halogenated Benzenes																				
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	1,2,3-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	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(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	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	µg/L	µg/L	µg/L
100	50	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0.2	2	0.002	2	2	2	2	1	1	1	1
				30								5	80							55	0.1	2								0.4	
				20								**3**	**20**							**15**	**0.05**	**1.5**								**0.01**	
													20																		

<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1
<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1
<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1
<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1
<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1
<100	**610**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1
<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1

7	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<100	**<50**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.2**	**<2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**
ND	**610**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<100	**610**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.2**	**<2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**
ND	**610**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
50	**109**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.1**	**1**	**0.001**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**
50	**25**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.1**	**1**	**0.001**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**
0	**221**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
50	**271**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.1**	**1**	**0.001**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**
0	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**86**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PAH											TPH					Phenols															
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	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	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	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	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
1	1	1	1	1	1	1	1	1	0.005	0.001	10	50	100	100	50	2	2	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	10	1
0.2				1.4			2																								
0.1				1			0.6																								
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<100	50	500	<100	550	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10
<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	0[#1]	<100	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10
7	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<1	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.005**	**0**	**<10**	**50**	**<100**	**<100**	**<50**	**<2**	**<2**	**<0.02**	**<2**	**<0.0005**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**	**<20**	**<20**	**<10**	**<1**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0**	**ND**	**50**	**500**	**ND**	**550**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<1	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.005**	**0**	**<100**	**50**	**500**	**<100**	**550**	**<2**	**<2**	**<0.02**	**<2**	**<0.005**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**	**<20**	**<20**	**<10**	**<10**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0**	**ND**	**50**	**500**	**ND**	**550**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.5	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**18**	**29**	**114**	**50**	**100**	**1**	**1**	**0.01**	**1**	**0.00089**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**10**	**10**	**5**	**1.8**
0.5	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**5**	**25**	**50**	**50**	**25**	**1**	**1**	**0.01**	**1**	**0.00025**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**10**	**10**	**5**	**0.5**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**9.4**	**170**	**0**	**198**	**0**	**0**	**0**	**0**	**0.0011**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2.2**
0.5	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**33.98**	**35.51**	**239.2**	**50**	**245.7**	**1**	**1**	**0.01**	**1**	**0.0017**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**10**	**10**	**5**	**3.398**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**0**	**14**	**14**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**0**	**100**	**86**	**86**	**100**	**86**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

		Organochlorine Pesticides																														Or
Pentachlorophenol	Phenol	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L	µg/L
10	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	5
22	400														0.008									0.009							
11	**270**														**0.004**									**0.0005**							
11	*400*														*0.004*									*0.009*							

<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5
<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5
<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5
<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5
<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5
<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5
<10	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<5

7	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<10	**<2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<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**	**<5**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<10	**<2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<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**	**<5**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
5	**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**	**0.1**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0001**	**1**	**0.1**	**0.1**	**0.1**	**1**	**2.5**
5	**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**	**0.1**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0001**	**1**	**0.1**	**0.1**	**0.1**	**1**	**2.5**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5	**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**	**0.1**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0001**	**1**	**0.1**	**0.1**	**0.1**	**1**	**2.5**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

ganophosphorous Pesticides												Pesticides	Perfluoroalkyl Sulfonic Acids							Perfluoroalkyl Carboxylic Acid										
Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Parathion	Phorate	Ronnel	Sarole	Carbazole	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)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.2	0.2	2	2	0.2	2	2	2	0.2	2	0.2	5	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	0.02	0.02	0.05	0.1	0.5
																	0.13							220						
																	0.00023							*19*						

<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<0.02	<0.02	<0.05	<0.1	<0.5
<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<0.02	<0.02	<0.05	<0.1	<0.5
<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<0.02	<0.02	<0.05	<0.1	<0.5
<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<0.02	<0.02	<0.05	<0.1	<0.5
<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5	**0.09**	**0.07**	**0.24**	**0.01**	*0.12*	<0.02	**0.36**	**0.04**	**0.03**	**0.22**	**0.06**	**0.05**	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5
<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5	<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	<0.05	<0.1	<0.5
<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<0.02	<0.02	<0.05	<0.1	<0.5

7	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**1**	**1**	**0**	**2**	**1**	**2**	**4**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
<0.2	**<0.2**	**<2**	**<2**	**<0.2**	**<2**	**<2**	**<2**	**<0.2**	**<2**	**<0.2**	**<5**	**<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**	**<0.02**	**<0.02**	**<0.05**	**<0.1**	**<0.5**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.09**	**0.07**	**0.03**	**0.01**	**0.12**	**ND**	**0.03**	**0.04**	**0.02**	**0.01**	**0.06**	**0.05**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<0.2	**<0.2**	**<2**	**<2**	**<0.2**	**<2**	**<2**	**<2**	**<0.2**	**<2**	**<0.2**	**<5**	**<5**	**0.09**	**0.07**	**0.24**	**0.01**	**0.12**	**<0.02**	**0.36**	**0.04**	**0.03**	**0.22**	**0.06**	**0.05**	**<0.01**	**<0.02**	**<0.02**	**<0.05**	**<0.1**	**<0.5**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.09**	**0.07**	**0.24**	**0.01**	**0.12**	**ND**	**0.36**	**0.04**	**0.03**	**0.22**	**0.06**	**0.05**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.1	**0.1**	**1**	**1**	**0.1**	**1**	**1**	**1**	**0.1**	**1**	**0.1**	**2.5**	**2.5**	**0.017**	**0.014**	**0.042**	**0.0057**	**0.021**	**0.01**	**0.059**	**0.014**	**0.014**	**0.038**	**0.013**	**0.011**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**
0.1	**0.1**	**1**	**1**	**0.1**	**1**	**1**	**1**	**0.1**	**1**	**0.1**	**2.5**	**2.5**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**	**0.01**	**0.005**	**0.01**	**0.01**	**0.01**	**0.005**	**0.005**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.032**	**0.025**	**0.088**	**0.0019**	**0.043**	**0**	**0.13**	**0.011**	**0.0079**	**0.08**	**0.021**	**0.017**	**0**	**0**	**0**	**0**	**0**	**0**
0.1	**0.1**	**1**	**1**	**0.1**	**1**	**1**	**1**	**0.1**	**1**	**0.1**	**2.5**	**2.5**	**0.0407**	**0.0323**	**0.107**	**0.0071**	**0.0534**	**0.01**	**0.157**	**0.0226**	**0.0201**	**0.0969**	**0.0281**	**0.0239**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**14**	**29**	**14**	**14**	**0**	**29**	**14**	**29**	**57**	**14**	**14**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**86**	**86**	**71**	**86**	**86**	**100**	**71**	**86**	**71**	**43**	**86**	**86**	**100**	**100**	**100**	**100**	**100**	**100**

Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				PFAS Totals	
Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	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
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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
<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**
<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
<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
<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
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	**0.17**	**0.93**
<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**
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	**0.03**	<0.02	<0.02	<0.01	**0.04**
7	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**4**
<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**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.03**	**ND**	**ND**	**0.17**	**0.01**
<0.1	**<0.05**	**<0.1**	**<0.05**	**<0.5**	**<0.02**	**<0.02**	**<0.01**	**0.03**	**<0.02**	**<0.02**	**0.17**	**0.93**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.03**	**ND**	**ND**	**0.17**	**0.93**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.0086**	**0.01**	**0.01**	**0.029**	**0.15**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.005**	**0.01**	**0.01**	**0.005**	**0.01**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0094**	**0**	**0**	**0.062**	**0.34**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.0155**	**0.01**	**0.01**	**0.0744**	**0.404**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**14**	**57**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**86**	**100**	**100**	**86**	**43**

					Arsenic Speciation			NA		Physico-Chemical & Major Ions													Nutrients					Me						
					Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (AS8)	Arsenic Acid, As (V)	Arsenious Acid, As (III)	pH (Lab)	TDS	Chloride	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (filtered)	Sodium (filtered)	Potassium (filtered)	Ionic Balance	Ammonia as N (filtered)	Nitrogen (Total Oxidised)	Nitrate (as N) (filtered)	Nitrogen (Total)	Reactive Phosphorus as P (Orthophosphate as P) (filtered)	Aluminium (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent) (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Iron (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	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L
EQL					1	1	1	1	1		5	1	1	5	5	5	5	0.5	0.5	0.5	0.5		0.005	0.005	0.005	0.1	0.005	0.01	1	0.1	0.005	1	1	0.01
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																							0.91							5.5	0.0044		1.3	
ANZG (2018) Marine Water 99% LOSP Toxicant DGVs																							**0.5**							**0.7**	**0.00014**		**0.3**	
PFAS NEMP 2020 Interim Marine 95%																																		
PFAS NEMP 2020 Interim Marine 99%																																		
ANZECC 2000 Default Guideline Values for Estuaries SMWTP Site Specific																								0.015		0.3								
NEPM 2013 Table 1C GILs, Marine Waters																														*0.7*	*0.0044*		*1.3*	
Sample Code	**Location Code**	**Field ID**	**Date**	**Matrix Type**																														
300822-1	WTP Westmead	SMW_ENV300_s	19/07/2022	Water	<1	<1	<1	<1	<1	-	370	28	83	<5	<5	5	5	<0.5	0.7	58	<0.5	-1.0	<1.005	0.64	-	0.8	0.006	0.18	<1	<0.1	<0.005	<1	3	0.05
300822-2	WTP Westmead	SMW_ENV295	19/07/2022	Water	<1	<1	<1	<1	<1	-	490	37	110	<5	<5	24	24	<0.5	1	88	0.7	1.0	0.012	0.005	-	0.7	0.27	0.09	1	<0.1	<0.005	<1	9	3
302829-3	WTP Westmead	ENV_299	10/08/2022	Water	-	-	-	-	-	5.5	1,200	210	570	<5	<5	51	51	3	11	380	7.4	-2.0	-	-	0.03	-	-	0.48	<1	0.1	-	<1	7	0.04
302829-4	WTP Westmead	ENV_300	10/08/2022	Water	-	-	-	-	-	6.4	2,400	450	1,100	<5	<5	220	220	6.5	33	650	14	-3.0	-	-	0.05	-	-	2.1	<1	0.2	-	<1	3	0.03
302829-5	WTP Westmead	ENV_294	10/08/2022	Water	-	-	-	-	-	5.1	380	32	190	<5	<5	21	21	0.7	2	130	1	7.0	-	-	<0.005	-	-	0.08	1	<0.1	-	1	14	1.7
302829-6	WTP Westmead	WTP_BH31A	10/08/2022	Water	-	-	-	-	-	7.6	2,800	430	630	<5	<5	1,100	1,100	41	79	700	30	-5.0	-	-	2.3	-	-	0.01	2	<0.1	-	<1	5	<0.01
Statistics																																		
Number of Results					**2**	**2**	**2**	**2**	**2**	**5**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**2**	**2**	**5**	**2**	**2**	**8**	**8**	**8**	**2**	**8**	**8**	**8**
Number of Detects					**0**	**0**	**0**	**0**	**0**	**5**	**7**	**7**	**7**	**0**	**0**	**7**	**7**	**5**	**7**	**7**	**6**	**7**	**1**	**2**	**3**	**2**	**2**	**7**	**3**	**2**	**0**	**2**	**7**	**6**
Minimum Concentration					**<1**	**<1**	**<1**	**<1**	**<1**	**5**	**370**	**28**	**83**	**<5**	**<5**	**5**	**5**	**<0.5**	**0.7**	**58**	**<0.5**	**-5**	**<0.005**	**0.005**	**<0.005**	**0.7**	**0.006**	**0.01**	**1**	**0.1**	**<0.005**	**1**	**<1**	**<0.01**
Minimum Detect					**ND**	**ND**	**ND**	**ND**	**ND**	**5**	**370**	**28**	**83**	**ND**	**ND**	**5**	**5**	**0.7**	**0.7**	**58**	**0.7**	**-5**	**0.012**	**0.005**	**0.03**	**0.7**	**0.006**	**0.01**	**1**	**0.1**	**ND**	**1**	**3**	**0.03**
Maximum Concentration					**<1**	**<1**	**<1**	**<1**	**<1**	**7.6**	**2,800**	**450**	**1,100**	**<5**	**<5**	**1,100**	**1,100**	**41**	**79**	**700**	**30**	**7**	**0.012**	**0.64**	**2.3**	**0.8**	**0.27**	**2.1**	**2**	**0.2**	**<0.005**	**1**	**14**	**3**
Maximum Detect					**ND**	**ND**	**ND**	**ND**	**ND**	**7.6**	**2,800**	**450**	**1,100**	**ND**	**ND**	**1,100**	**1,100**	**41**	**79**	**700**	**30**	**7**	**0.012**	**0.64**	**2.3**	**0.8**	**0.27**	**2.1**	**2**	**0.2**	**ND**	**1**	**14**	**3**
Average Concentration *					**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**5.9**	**1,177**	**174**	**412**	**2.5**	**2.5**	**206**	**206**	**7.5**	**18**	**304**	**7.8**	**-0.29**	**0.0072**	**0.32**	**0.48**	**0.75**	**0.14**	**0.38**	**0.81**	**0.075**	**0.0025**	**0.62**	**6.4**	**0.8**
Median Concentration *					**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**5.5**	**600**	**37**	**200**	**2.5**	**2.5**	**24**	**24**	**0.7**	**2**	**130**	**1**	**-1**	**0.00725**	**0.3225**	**0.03**	**0.75**	**0.138**	**0.09**	**0.5**	**0.05**	**0.0025**	**0.5**	**6**	**0.045**
Standard Deviation *					**0**	**0**	**0**	**0**	**0**	**1.1**	**1,018**	**193**	**374**	**0**	**0**	**401**	**401**	**15**	**29**	**275**	**11**	**3.9**	**0.0067**	**0.45**	**1**	**0.071**	**0.19**	**0.71**	**0.53**	**0.053**	**0**	**0.23**	**4.4**	**1.2**
95% UCL (Student's-t) *					**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**6.959**	**1,925**	**315.9**	**686.6**	**2.5**	**2.5**	**500.5**	**500.5**	**18.47**	**39.79**	**505.7**	**15.87**	**2.55**	**0.0372**	**2.327**	**1.449**	**1.066**	**0.971**	**0.856**	**1.168**	**0.111**	**0.0025**	**0.78**	**9.409**	**1.575**
% of Detects					**0**	**0**	**0**	**0**	**0**	**100**	**100**	**100**	**100**	**0**	**0**	**100**	**100**	**71**	**100**	**100**	**86**	**100**	**50**	**100**	**60**	**100**	**100**	**88**	**38**	**25**	**0**	**25**	**88**	**75**
% of Non-Detects					**100**	**100**	**100**	**100**	**100**	**0**	**0**	**0**	**0**	**100**	**100**	**0**	**0**	**29**	**0**	**0**	**14**	**0**	**50**	**0**	**40**	**0**	**0**	**12**	**62**	**75**	**100**	**75**	**12**	**25**

tals							BTEX							TRH							MAH									Halogenated Benzenes										
Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Silicon	Zinc (filtered)	Benzene	Toluene	Ethylbenzene	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	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	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
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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	0.005	0.05	1	0.05	200	1	1	1	1	2	1	1	1	10	10	50	50	100	100	50	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0.2
4.4		0.4	70			15	700	180	80			70	70										30								5	80								55	0.1
2.2		**0.1**	**7**			**7**	**500**	**110**	**50**			**50**	**50**										**20**								**3**	**20**								**15**	**0.05**
4.4		*0.1*	*7*			*15*	*500*					*50*	*50*																			*20*								

<1	**0.008**	<0.05	**2**	<0.05	**-**	**10**	<1	<1	<1	<1	<1	<1	<1	<50	<50	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
<1	**0.083**	<0.05	**4**	**0.6**	**-**	*25*	**270**	<1	<1	**13**	**4**	**25**	**44**	**450**	**160**	**950**	**910**	**150**	<100	**1,100**	**4**	<1	**34**	**2**	**6**	<1	**2**	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
<1	**2**	<0.05	*18*	**-**	**31,000**	*200*	<1	<1	<1	<2	<1	<1	<1	<50	<50	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**-**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2
<1	**4.9**	<0.05	***130***	**-**	**8,200**	*540*	<1	<1	<1	<2	<1	<1	<1	<50	<50	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**-**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2
<1	**0.14**	<0.05	*8*	**-**	**49,000**	*34*	<1	<1	<1	<2	<1	<1	<1	**120**	**120**	<50	<50	<100	<100	<50	<1	<1	**31**	<1	<1	<1	**3**	<1	**2**	<1	**-**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2
<1	**0.17**	<0.05	**5**	**-**	**9,300**	*16*	<1	<1	<1	<2	<1	<1	<1	<50	<50	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**-**	<1	<1	<1	<1	<1	<1	<1	<1	<0.2

8	**8**	**8**	**8**	**2**	**5**	**8**	**8**	**7**	**7**	**8**	**8**	**8**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**2**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**7**	**0**	**7**	**1**	**5**	**7**	**2**	**0**	**0**	**2**	**2**	**2**	**1**	**3**	**3**	**1**	**1**	**1**	**0**	**1**	**1**	**0**	**3**	**1**	**1**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<1	**<0.005**	**<0.05**	**<1**	**<0.05**	**8,200**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**	**<1**	**<1**	**<10**	**<10**	**<50**	**<50**	**<100**	**<100**	**<50**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.2**
ND	**0.008**	**ND**	**2**	**0.6**	**8,200**	**10**	**270**	**ND**	**ND**	**13**	**4**	**25**	**44**	**120**	**120**	**950**	**910**	**150**	**ND**	**1,100**	**4**	**ND**	**30**	**2**	**6**	**ND**	**2**	**ND**	**2**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<1	**4.9**	**<0.05**	**130**	**0.6**	**50,000**	**540**	**270**	**<1**	**<1**	**13**	**4**	**25**	**44**	**450**	**160**	**950**	**910**	**150**	**<100**	**1,100**	**4**	**<1**	**34**	**2**	**6**	**<1**	**3**	**<1**	**2**	**<1**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**
ND	**4.9**	**ND**	**130**	**0.6**	**50,000**	**540**	**270**	**ND**	**ND**	**13**	**4**	**25**	**44**	**450**	**160**	**950**	**910**	**150**	**ND**	**1,100**	**4**	**ND**	**34**	**2**	**6**	**ND**	**3**	**ND**	**2**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.5	**0.93**	**0.025**	**27**	**0.31**	**29,500**	**107**	**68**	**0.5**	**0.5**	**4**	**1.4**	**6.6**	**6.7**	**101**	**60**	**157**	**151**	**64**	**50**	**179**	**1**	**0.5**	**14**	**0.71**	**1.3**	**0.5**	**1.4**	**0.5**	**0.93**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.36**
0.5	**0.135**	**0.025**	**6**	**0.3125**	**31,000**	**28**	**0.5**	**0.5**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**5**	**5**	**25**	**25**	**50**	**50**	**25**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.1**
0	**1.7**	**0**	**46**	**0.41**	**20,399**	**186**	**102**	**0**	**0**	**4.5**	**1.3**	**9.3**	**16**	**163**	**70**	**350**	**334**	**38**	**0**	**406**	**1.3**	**0**	**17**	**0.57**	**2.1**	**0**	**1.2**	**0**	**0.73**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.44**
0.5	**2.094**	**0.025**	**57.67**	**2.128**	**48,948**	**231.9**	**151.4**	**0.5**	**0.5**	**7.721**	**2.46**	**14.22**	**18.79**	**221.1**	**111.3**	**413.9**	**397.1**	**92.05**	**50**	**477**	**1.972**	**0.5**	**26.12**	**1.131**	**2.812**	**0.5**	**2.314**	**0.5**	**1.466**	**0.5**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.68**
0	**88**	**0**	**88**	**50**	**100**	**88**	**25**	**0**	**0**	**25**	**25**	**25**	**14**	**43**	**43**	**14**	**14**	**14**	**0**	**14**	**14**	**0**	**43**	**14**	**14**	**0**	**43**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**12**	**100**	**12**	**50**	**0**	**12**	**75**	**100**	**100**	**75**	**75**	**75**	**86**	**57**	**57**	**86**	**86**	**86**	**100**	**86**	**86**	**100**	**57**	**86**	**86**	**100**	**57**	**100**	**71**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

	PAH																				TPH					Phenols																
Pentachlorobenzene	Benzo(b+j+k)fluoranthene	1-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	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 toal)	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	2,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol
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	µg/L	mg/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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2	0.002	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.005	0.001	10	50	100	100	50	2	2	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	10
2								0.4		0.2				1.4			2																								
1.5								**0.01**		**0.1**				**1**			**0.6**																								

<2	<0.002	<2	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0[#1]**	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
<2	<0.002	<2	**3**	<2	<2	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0.027**	**380**	**920**	**320**	<100	**1,200**	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10
-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0[#1]**	<10	<50	<100	<100	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0[#1]**	<10	<50	<100	<100	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0[#1]**	**56**	**71**	<100	<100	**70**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0[#1]**	<10	<50	<100	<100	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2	**7**	**2**	**2**	**2**	**2**	**8**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
0	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**3**	**3**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<2	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.005**	**0**	**<10**	**<50**	**<100**	**<100**	**<50**	**<2**	**<2**	**<0.02**	**<2**	**<0.0005**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**	**<20**	**<20**	**<10**
ND	**ND**	**ND**	**3**	**ND**	**ND**	**2**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0**	**54**	**58**	**320**	**ND**	**60**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<2	**<0.002**	**<2**	**3**	**<2**	**<2**	**2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.005**	**0.027**	**380**	**920**	**320**	**<100**	**1,200**	**<2**	**<2**	**<0.02**	**<2**	**<0.005**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**	**<20**	**<20**	**<10**
ND	**ND**	**ND**	**3**	**ND**	**ND**	**2**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.027**	**380**	**920**	**320**	**ND**	**1,200**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
1	**0.001**	**1**	**2**	**1**	**1**	**0.88**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0.0039**	**73**	**164**	**89**	**50**	**204**	**1**	**1**	**0.01**	**1**	**0.0014**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**10**	**10**	**5**
1	**0.001**	**1**	**2**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**5**	**25**	**50**	**50**	**25**	**1**	**1**	**0.01**	**1**	**0.001375**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**10**	**10**	**5**
0	**0**	**0**	**1.4**	**0**	**0**	**0.57**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.01**	**137**	**334**	**102**	**0**	**439**	**0**	**0**	**0**	**0**	**0.0016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1	**0.001**	**1**	**8.314**	**1**	**1**	**1.34**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0.0114**	**173.8**	**409.3**	**163.5**	**50**	**527.1**	**1**	**1**	**0.01**	**1**	**0.00848**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**10**	**10**	**5**
0	**0**	**0**	**50**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**43**	**43**	**14**	**0**	**43**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**50**	**100**	**100**	**75**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**0**	**57**	**57**	**86**	**100**	**57**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

				Organochlorine Pesticides																					Organophosphorous Pesticides																
Picloram	Pentachlorophenol	Phenolics Total	Phenol	1,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinphos-methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion	Fenitrothion	Fensulfothion	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	10	50	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	5	0.2	0.2	2	2	0.2	2	2
	22		400														0.008									0.009															
	11		**270**														**0.004**									**0.0005**															
	11		*400*														*0.004*									*0.009*															

<10	<10	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2
<1	<10	-	**4**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<2	<2
-	-	<50	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0001	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-
-	-	<50	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0001	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-
-	-	<50	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0001	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-
-	-	<50	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0001	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-	-	<0.2	-	-

2	**2**	**5**	**2**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**2**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**2**	**7**	**7**	**7**	**2**	**2**	**7**	**7**	**2**	**2**	**7**	**2**	**2**
0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<1	**<10**	**<50**	**<2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<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**	**<5**	**<0.2**	**<0.2**	**<2**	**<2**	**<0.2**	**<2**	**<2**
ND	**ND**	**ND**	**4**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<10	**<10**	**<50**	**4**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<0.2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<2**	**<5**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**
ND	**ND**	**ND**	**4**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
2.8	**5**	**25**	**2.5**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**1**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.36**	**0.1**	**0.00036**	**1**	**0.36**	**0.36**	**0.36**	**1**	**2.5**	**0.36**	**0.36**	**1**	**1**	**0.36**	**1**	**1**
2.75	**5**	**25**	**2.5**	**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**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0001**	**1**	**0.1**	**0.1**	**0.1**	**1**	**2.5**	**0.1**	**0.1**	**1**	**1**	**0.1**	**1**	**1**
3.2	**0**	**0**	**2.1**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0.44**	**0**	**0.00044**	**0**	**0.44**	**0.44**	**0.44**	**0**	**0**	**0.44**	**0.44**	**0**	**0**	**0.44**	**0**	**0**
16.96	**5**	**25**	**11.97**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**1**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.68**	**0.1**	**0.00067968**	**1**	**0.68**	**0.68**	**0.68**	**1**	**2.5**	**0.68**	**0.68**	**1**	**1**	**0.68**	**1**	**1**
0	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**50**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

					Pesticides	Perfluoroalkyl Sulfonic Acids						
Methyl parathion	Parathion	Phorate	Ronnel	Safrole	Carbazole	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
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2	0.2	2	0.2	5	5	0.01	0.01	0.0002	0.01	0.0002	0.02	0.0002
										0.13		
										0.00023		
<2	<2	<2	<2	<5	<5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01
<2	<2	<2	<2	<5	<5	**0.02**	<0.01	**0.03**	<0.01	***0.03***	<0.02	**0.06**
-	<0.2	-	<0.2	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002
-	<0.2	-	<0.2	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002
-	<0.2	-	<0.2	-	-	-	-	**0.0029**	-	***0.0029***	-	**0.0058**
-	<0.2	-	<0.2	-	-	-	-	<0.0002	-	***0.0006***	-	**0.0006**
2	**7**	**2**	**7**	**2**	**2**	**2**	**2**	**7**	**2**	**7**	**2**	**7**
0	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**3**	**0**	**3**
<2	**<0.2**	**<2**	**<0.2**	**<5**	**<5**	**<0.01**	**<0.01**	**<0.0002**	**<0.01**	**<0.0002**	**<0.02**	**<0.0002**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**0.02**	**ND**	**0.0029**	**ND**	**0.0006**	**ND**	**0.0006**
<2	**<2**	**<2**	**<2**	**<5**	**<5**	**0.02**	**<0.01**	**0.03**	**<0.01**	**0.03**	**<0.02**	**0.06**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**0.02**	**ND**	**0.03**	**ND**	**0.03**	**ND**	**0.06**
1	**0.36**	**1**	**0.36**	**2.5**	**2.5**	**0.012**	**0.005**	**0.0055**	**0.005**	**0.0055**	**0.01**	**0.01**
1	**0.1**	**1**	**0.1**	**2.5**	**2.5**	**0.0125**	**0.005**	**0.0001**	**0.005**	**0.0006**	**0.01**	**0.0006**
0	**0.44**	**0**	**0.44**	**0**	**0**	**0.011**	**0**	**0.011**	**0**	**0.011**	**0**	**0.022**
1	**0.68**	**1**	**0.68**	**2.5**	**2.5**	**0.0599**	**0.005**	**0.0135**	**0.005**	**0.0136**	**0.01**	**0.0265**
0	**0**	**0**	**0**	**0**	**0**	**50**	**0**	**29**	**0**	**43**	**0**	**43**
100	**100**	**100**	**100**	**100**	**100**	**50**	**100**	**71**	**100**	**57**	**100**	**57**

	Perfluoroalkyl Carboxylic Acid										
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)
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.0002	0.02	0.02	0.01	0.01	0.0002	0.01	0.02	0.02	0.05	0.1	0.5
					220						
					19						
<0.01	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5
0.06	<0.02	**0.05**	**0.08**	**0.03**	**0.16**	<0.01	<0.02	<0.02	<0.05	<0.1	<0.5
<0.0002	-	-	-	-	**0.0004**	-	-	-	-	-	-
<0.0002	-	-	-	-	<0.0002	-	-	-	-	-	-
0.0058	-	-	-	-	**0.011**	-	-	-	-	-	-
0.0006	-	-	-	-	<0.0002	-	-	-	-	-	-
7	**2**	**2**	**2**	**2**	**7**	**2**	**2**	**2**	**2**	**2**	**2**
3	**0**	**1**	**1**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**
<0.02	**<0.02**	**<0.02**	**<0.01**	**<0.01**	**<0.0002**	**<0.01**	**<0.02**	**<0.02**	**<0.05**	**<0.1**	**<0.5**
ND	**ND**	**0.05**	**0.08**	**0.03**	**0.0004**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.06	**<0.02**	**0.05**	**0.08**	**0.03**	**0.16**	**<0.01**	**<0.02**	**<0.02**	**<0.05**	**<0.1**	**<0.5**
0.06	**ND**	**0.05**	**0.08**	**0.03**	**0.16**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.01	**0.01**	**0.03**	**0.042**	**0.017**	**0.027**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**
0.0006	**0.01**	**0.03**	**0.0425**	**0.0175**	**0.005**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**
0.022	**0**	**0.028**	**0.053**	**0.018**	**0.059**	**0**	**0**	**0**	**0**	**0**	**0**
0.0265	**0.01**	**0.156**	**0.279**	**0.0964**	**0.0699**	**0.005**	**0.01**	**0.01**	**0.025**	**0.05**	**0.25**
43	**0**	**50**	**50**	**50**	**57**	**0**	**0**	**0**	**0**	**0**	**0**
57	**100**	**50**	**50**	**50**	**43**	**100**	**100**	**100**	**100**	**100**	**100**

	Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				PFAS Totals	
Perfluorooctane sulfonamide (PFOSA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	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)[a]	Sum of PFAS
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.1	0.05	0.1	0.05	0.5	0.02	0.02	0.01	0.0004	0.0004	0.02	0.0002	0.0002
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	<0.01
<0.1	<0.05	<0.1	<0.05	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	**0.18**	**0.39**
-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	**0.0004**	**0.0004**
-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	-	-
-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	**0.014**	**0.017**
-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	**0.0006**	**0.0006**
2	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**7**	**7**	**2**	**7**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**
<0.1	**<0.05**	**<0.1**	**<0.05**	**<0.5**	**<0.02**	**<0.02**	**<0.01**	**<0.0004**	**<0.0004**	**<0.02**	**<0.0002**	**<0.0002**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.0004**	**0.0004**
<0.1	**<0.05**	**<0.1**	**<0.05**	**<0.5**	**<0.02**	**<0.02**	**<0.01**	**<0.01**	**<0.02**	**<0.02**	**0.18**	**0.39**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.18**	**0.39**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.0016**	**0.003**	**0.01**	**0.03**	**0.06**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.0002**	**0.0002**	**0.01**	**0.005**	**0.005**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0023**	**0.0048**	**0**	**0.066**	**0.15**
0.05	**0.025**	**0.05**	**0.025**	**0.25**	**0.01**	**0.01**	**0.005**	**0.00329**	**0.00651**	**0.01**	**0.0786**	**0.167**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**71**	**71**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**29**	**29**

					Arsenic Speciation			NA		Physico-Chemical & Major Ions															Nutrients												
					Dimethylarsinic Acid (DMA)	Methylarsonic acid (MMA)	Arsenobetaine (ASB)	Arsenic Acid, As (V)	Arsenious Acid, As (III)	Redox Potential (Lab)	pH (Lab)	Dissolved Oxygen	TDS	Chloride	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (Filtered)	Magnesium (Filtered)	Sodium (Filtered)	Potassium (Filtered)	Ionic Balance	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	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)	Chromium (Trivalent)
					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	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					1	1	1	1	1			0.1	5	1	1	5	5	5	5	0.5	0.5	0.5	0.5		0.005	0.1	0.005	0.005	0.005	0.1	0.005	0.01	1	0.1	0.001	0.005
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																									0.91									5.5	0.0044	0.027
ANZG (2018) Marine Water 99% LOSP Toxicant DGVs																									**0.5**									**0.7**	**0.00014**	**0.0077**
PFAS NEMP 2020 Interim Marine 95%																																					
PFAS NEMP 2020 Interim Marine 99%																																					
ANZECC 2000 Default Guideline Values for Estuaries SMWTP Site Specific																											0.015			0.3							
NEPM 2013 Table 1C GILs, Marine Waters																																		*0.7*	*0.0044*	*0.027*
Sample Code	**Location Code**	**Field ID**	**Date**	**Matrix Type**																																	
300303-10	WTP Clyde	TB	11/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300470-6	WTP Clyde	TB	14/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300546-5	WTP Rosehill	QA1	13/07/2022	Water	-	-	-	-	-	106	6.1	8.1	8,900	3,900	900	<5	<5	190	190	120	330	1,900	10	-7.0	0.19	0.2	-	1.0	0.12	1.4	0.007	<0.01	<1	0.2	<0.001	<0.005
300546-7	WTP Rosehill	TB	13/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300573-5	WTP Clyde	QA2	15/07/2022	Water	<1	<1	<1	<1	<1	-	-	-	1,100	240	310	<5	<5	250	250	36	66	220	19	-2.0	0.16	-	0.03	-	-	0.4	<0.005	<0.01	2	<0.1	<0.005	-
300573-6	WTP Clyde	TB	15/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300573-8	WTP Clyde	R1	15/07/2022	Water	<1	<1	<1	<1	<1	-	-	-	<5	<1	<1	<5	<5	<5	<5	<0.5	<0.5	0.9	<0.5	100	<0.005	-	<0.005	-	-	<0.1	<0.005	<0.01	<1	<0.1	<0.005	-
300679-3	WTP Clyde	R2	18/07/2022	Water	<1	<1	<1	<1	<1	-	-	-	<5	<1	<1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	-	<0.005	-	<0.005	-	-	<0.1	<0.005	<0.01	<1	<0.1	<0.005	-
300679-5	WTP Clyde	TB	18/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300822-3	WTP Westmead	R3	19/07/2022	Water	<1	<1	<1	<1	<1	-	-	-	<5	<1	<1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	-	<0.005	-	<0.005	-	-	<0.1	<0.005	<0.01	<1	<0.1	<0.005	-
300822-5	WTP Westmead	TB	19/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
301190-4	WTP Rosehill	QA3	22/07/2022	Water	<1	<1	<1	<1	<1	-	-	-	940	270	54	<5	<5	450	450	88	150	1,600	170	68	15	-	<0.01	-	-	14	<0.05	0.01	10	<0.1	<0.005	-
301190-5	WTP Rosehill	R4	22/07/2022	Water	<1	<1	<1	<1	<1	-	-	-	<5	<1	<1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	-	<0.005	-	0.01	-	-	<0.1	<0.005	<0.01	<1	<0.1	<0.005	-
301190-7	WTP Rosehill	TB	22/07/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-1	WTP Westmead	TB	10/08/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302829-7	WTP Westmead	QC01	10/08/2022	Water	-	-	-	-	-	-	5.0	-	600	32	200	<5	<5	20	20	0.7	2	120	1	1.0	-	-	-	-	-	-	<0.005	0.09	<1	<0.1	-	-
302829-8	WTP Westmead	RM01	10/08/2022	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<1	<0.1	-	-
Statistics																																					
Number of Results					6	6	6	6	6	1	2	1	8	8	8	8	8	8	8	8	8	8	8	5	7	1	6	2	1	7	7	9	9	9	7	1
Number of Detects					0	0	0	0	0	1	2	1	4	4	4	0	0	4	4	4	4	5	4	5	3	1	2	1	1	3	1	2	2	1	0	0
Minimum Concentration					<1	<1	<1	<1	<1	106	5	8.1	<5	<1	<1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	-7	<0.005	0.2	<0.005	<0.005	0.12	<0.1	<0.005	0.01	<1	<0.1	<0.001	<0.005
Minimum Detect					ND	ND	ND	ND	ND	106	5	8.1	600	32	54	ND	ND	20	20	0.7	2	0.9	1	-7	0.16	0.2	0.01	1	0.12	0.4	0.007	0.01	2	0.2	ND	ND
Maximum Concentration					<1	<1	<1	<1	<1	106	6.1	8.1	8,900	3,900	900	<5	<5	450	450	120	330	1,900	170	100	15	0.2	0.03	1	0.12	14	<0.05	0.09	10	0.2	<0.005	<0.005
Maximum Detect					ND	ND	ND	ND	ND	106	6.1	8.1	8,900	3,900	900	ND	ND	450	450	120	330	1,900	170	100	15	0.2	0.03	1	0.12	14	0.007	0.09	10	0.2	ND	ND
Average Concentration *					0.5	0.5	0.5	0.5	0.5		5.6		1,444	556	183	2.5	2.5	115	115	31	69	480	25	32	2.2		0.0088	0.5		2.3	0.0064	0.015	1.7	0.067	0.0022	
Median Concentration *					0.5	0.5	0.5	0.5	0.5	106	5.55	8.1	301.25	16.25	27.25	2.5	2.5	11.25	11.25	0.475	1.125	60.45	0.625	1	0.0025	0.2	0.00375	0.50125	0.12	0.05	0.0025	0.005	0.5	0.05	0.0025	0.0025
Standard Deviation *					0	0	0	0	0		0.78		3,047	1,356	312	0	0	167	167	48	118	792	59	49	5.6		0.011	0.71		5.2	0.0084	0.028	3.1	0.05	0.00076	
95% UCL (Student's-t) *					0.5	0.5	0.5	0.5	0.5		9.023		3,485	1,464	392.1	2.5	2.5	227	227	62.63	147.9	1,011	64.6	78.6	6.342		0.0176	3.65		6.097	0.0125	0.0325	3.671	0.0977	0.00277	
% of Detects					0	0	0	0	0	100	100	100	50	50	50	0	0	50	50	50	50	62	50	100	43	100	33	50	100	43	14	22	22	11	0	0
% of Non-Detects					100	100	100	100	100	0	0	0	50	50	50	100	100	50	50	50	50	38	50	0	57	0	67	50	0	57	86	78	78	89	100	100

Metals									
Chromium (III+VI) (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Phosphorus	Silicon	Zinc (filtered)
µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	mg/L	µg/L	µg/L
1	1	0.01	1	0.005	0.05	1	0.05	200	1
	1.3		4.4		0.4	70			15
	0.3		2.2		0.1	7			7
	1.3		*4.4*		*0.1*	*7*			*15*
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
<1	1	-	<1	1	<0.05	6	<0.05	-	4
-	-	-	-	-	-	-	-	-	-
<1	<1	7.8	<1	1.4	<0.05	2	<0.05	-	5
-	-	-	-	-	-	-	-	-	-
<1	<1	<0.01	<1	<0.005	<0.05	<1	<0.05	-	1
<1	<1	<0.01	<1	<0.005	<0.05	<1	<0.05	-	1
-	-	-	-	-	-	-	-	-	-
<1	<1	<0.01	<1	<0.005	<0.05	<1	<0.05	-	<1
-	-	-	-	-	-	-	-	-	-
4	<1	490	<1	1.4	<0.05	<1	0.3	-	<1
<1	<1	<0.01	<1	<0.005	<0.05	<1	<0.05	-	<1
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
1	*10*	1.6	<1	0.13	<0.05	7	-	50,000	*31*
<1	<1	<0.01	<1	<0.005	<0.05	<1	-	-	<1
9	9	8	9	9	9	9	7	1	9
2	2	3	0	4	0	3	1	1	5
1	1	<0.01	<1	<0.005	<0.05	<1	<0.05	50,000	1
1	1	1.6	ND	0.13	ND	2	0.3	50,000	1
4	10	490	<1	1.4	<0.05	7	0.3	50,000	31
4	10	490	ND	1.4	ND	7	0.3	50,000	31
0.94	1.6	62	0.5	0.44	0.025	2	0.064		4.9
0.5	0.5	0.005	0.5	0.0025	0.025	0.5	0.025	50,000	1
1.2	3.2	173	0	0.63	0	2.6	0.1		9.9
1.662	3.564	178.2	0.5	0.831	0.025	3.618	0.141		11.05
22	22	38	0	44	0	33	14	100	56
78	78	62	100	56	100	67	86	0	44

BTEX						
Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Naphthalene	Naphthalene (BTEX)
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	1	1	2	1	1	1
700	180	80			70	70
500	110	50			50	50
500					*50*	*50*
<1	<1	<1	<2	<1	-	<1
<1	<1	<1	<2	<1	-	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
<1	<1	<1	<2	<1	<1	<1
16	16	16	16	16	8	16
0	0	0	0	0	0	0
<1	<1	<1	<2	<1	<1	<1
ND	ND	ND	ND	ND	ND	ND
<1	<1	<1	<2	<1	<1	<10
ND	ND	ND	ND	ND	ND	ND
0.5	0.5	0.5	1	0.5	0.5	0.78
0.5	0.5	0.5	1	0.5	0.5	0.5
0	0	0	0	0	0	1.1
0.5	0.5	0.5	1	0.5	0.5	1.274
0	0	0	0	0	0	0
100	100	100	100	100	100	100

TRH						
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
10	10	50	50	100	100	50
<10	<10	-	-	-	-	-
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
-	-	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
<10	<10	-	-	-	-	-
<10	<10	<50	<50	<100	<100	<50
15	15	8	8	8	8	8
1	1	1	1	1	0	1
<10	<10	<50	<50	<100	<100	<50
120	120	120	120	530	ND	650
120	120	120	120	530	<100	650
120	120	120	120	530	ND	650
16	13	37	37	110	50	103
5	5	25	25	50	50	25
31	30	34	34	170	0	221
29.81	26.17	59.37	59.37	223.7	50	251.1
7	7	12	12	12	0	12
93	93	88	88	88	100	88

MAH									
1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
1	1	1	1	1	1	1	1	1	
0	0	30							
		20							
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
-	-	-	-	-	-	-	-	-	
<1	<1	30	<1	<1	<1	3	<1	2	
-	-	-	-	-	-	-	-	-	
8	8	8	8	8	8	8	8	8	
0	0	1	0	0	0	1	0	1	
<1	<1	<1	<1	<1	<1	<1	<1	<1	
ND	ND	30	ND	ND	ND	3	ND	2	
<1	<1	30	<1	<1	<1	3	<1	2	
ND	ND	30	ND	ND	ND	3	ND	2	
0.5	0.5	4.2	0.5	0.5	0.5	0.81	0.5	0.69	
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
0	0	10	0	0	0	0.88	0	0.53	
0.5	0.5	11.17	0.5	0.5	0.5	1.405	0.5	1.043	
0	0	12	0	0	0	12	0	12	
100	100	88	100	100	100	88	100	88	

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
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	2	1	1	1	1	1	1
	5	80					
	3	20					
		20					
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
<1	<2	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
<1	<2	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
<1	<2	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
<1	<2	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
<1	<2	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
<1	<2	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
<1	-	<1	<1	<1	<1	<1	<1
-	-	-	-	-	-	-	-
8	7	8	8	8	8	8	8
0	0	0	0	0	0	0	0
<1	<2	<1	<1	<1	<1	<1	<1
ND	ND	ND	ND	ND	ND	ND	ND
<1	<2	<1	<1	<1	<1	<1	<1
ND	ND	ND	ND	ND	ND	ND	ND
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5
0	0	0	0	0	0	0	0
0.5	1	0.5	0.5	0.5	0.5	0.5	0.5
0	0	0	0	0	0	0	0
100	100	100	100	100	100	100	100

				PAH																				TPH					Phenols											
Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	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	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	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
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	µg/L	mg/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	µg/L	µg/L	µg/L	µg/L	µg/L
1	1	0.2	2	0.002	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0.005	0.001	10	50	100	100	50	2	2	0.02	2	0.0005	2	2	2	2	2	4	2
	55	0.1	2								0.4		0.2				1.4			2																				
	15	**0.05**	**1.5**								**0.01**		**0.1**				**1**			**0.6**																				
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.001	<2	<2	<2	<2	<2	<4	<2
<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	<1	<2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<100	**55**	**560**	<100	**610**	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2
<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	<1	<0.2	-	<0.002	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.005	**0**[#1]	**54**	**58**	<100	<100	**60**	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	**8**	**8**	**7**	**8**	**7**	**7**	**7**	**7**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**15**	**8**	**8**	**8**	**8**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<1	**<1**	**<0.2**	**<2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.005**	**0**	**<10**	**<50**	**<100**	**<100**	**<50**	**<2**	**<2**	**<0.02**	**<2**	**<0.0005**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0**	**54**	**55**	**560**	**ND**	**60**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<1	**<1**	**<2**	**<2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.005**	**0**	**<100**	**58**	**560**	**<100**	**610**	**<2**	**<2**	**<0.02**	**<2**	**<0.005**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0**	**54**	**58**	**560**	**ND**	**610**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.5	**0.5**	**0.21**	**1**	**0.001**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**11**	**33**	**114**	**50**	**102**	**1**	**1**	**0.01**	**1**	**0.00061**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
0.5	**0.5**	**0.1**	**1**	**0.001**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**5**	**25**	**50**	**50**	**25**	**1**	**1**	**0.01**	**1**	**0.00025**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
0	**0**	**0.32**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**15**	**180**	**0**	**205**	**0**	**0**	**0**	**0**	**0.00084**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0.5	**0.5**	**0.426**	**1**	**0.001**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0025**	**0**	**18.8**	**42.66**	**234.5**	**50**	**240.1**	**1**	**1**	**0.01**	**1**	**0.00122**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**100**	**7**	**25**	**12**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**0**	**93**	**75**	**88**	**100**	**75**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

							Organochlorine Pesticides												
4,6-Dinitro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Picloram	Pentachlorophenol	Phenolics Total	Phenol	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
20	20	10	1	10	50	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
				22		400													
				11		**270**													
				11		*400*													
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<20	<20	<10	<1	<10	-	<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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<20	<20	<10	<1	<10	-	<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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<20	<20	<10	<2	<10	-	<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
<20	<20	<10	<1	<10	-	<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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<20	<20	<10	<1	<10	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<20	<20	<10	<10	<10	-	<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
<20	<20	<10	<1	<10	-	<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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	<50	-	<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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	**7**	**7**	**7**	**7**	**1**	**7**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<20	**<20**	**<10**	**<1**	**<10**	**<50**	**<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**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<20	**<20**	**<10**	**<10**	**<10**	**<50**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
10	**10**	**5**	**1.2**	**5**		**1**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**
10	**10**	**5**	**0.5**	**5**	**25**	**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**	**0.1**
0	**0**	**0**	**1.7**	**0**		**0**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**
10	**10**	**5**	**2.448**	**5**		**1**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

							Organophosphorous Pesticides												
Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos
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	µg/L	µg/L	µg/L	µg/L
0.2	0.2	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	5	0.2	0.2	2
0.008									0.009										
0.004									**0.0005**										
0.004									*0.009*										
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.2	<0.2	<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	<5	<0.2	<0.2	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.2	<0.2	<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	<5	<0.2	<0.2	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.2	<0.2	<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	<5	<0.2	<0.2	<2
<0.2	<0.2	<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	<5	<0.2	<0.2	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.2	<0.002	<2	<2	<2	<2	<2	<5	<2	<2	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.2	<0.2	<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	<5	<0.2	<0.2	<2
<0.2	<0.2	<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	<5	<0.2	<0.2	<2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	**8**	**7**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**7**	**8**	**8**	**8**	**7**	**7**	**8**	**8**	**7**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
<0.2	**<0.2**	**<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**	**<5**	**<0.2**	**<0.2**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
<2	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<0.2**	**<0.002**	**<2**	**<2**	**<2**	**<2**	**<2**	**<5**	**<2**	**<2**	**<2**
ND	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
0.21	**0.21**	**1**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.1**	**0.00021**	**1**	**0.21**	**0.21**	**0.21**	**1**	**2.5**	**0.21**	**0.21**	**1**
0.1	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0001**	**1**	**0.1**	**0.1**	**0.1**	**1**	**2.5**	**0.1**	**0.1**	**1**
0.32	**0.32**	**0**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0**	**0.00032**	**0**	**0.32**	**0.32**	**0.32**	**0**	**0**	**0.32**	**0.32**	**0**
0.426	**0.426**	**1**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.426**	**0.1**	**0.00042564**	**1**	**0.426**	**0.426**	**0.426**	**1**	**2.5**	**0.426**	**0.426**	**1**
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

									Pesticides	Perfluoroalkyl Sulfonic Acids							Perfluoroalkyl Carboxylic Acid											Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				PFAS Totals	
Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Parathion	Phorate	Ronnel	Sulfotep	Carbazole	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)	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-Ethylperfluorooctanesulfonamidoethanol (N-EtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl perfluorooctanesulfonamid acetic acid (NEtFOSAA)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of US EPA PFAS (PFOS + PFOA) [1]	Sum of PFAS
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2	0.2	2	2	2	0.2	2	0.2	5	5	0.01	0.01	0.0002	0.01	0.0002	0.02	0.0002	0.02	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	0.5	0.02	0.02	0.01	0.0004	0.0004	0.02	0.0002	0.0002
														0.13							220																			
														0.00023							19																			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5	<0.01	<0.01	<0.001	<0.01	<0.01	<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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	<0.01	0.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5	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	<0.01	<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	0.05	0.22
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<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	<0.01	<0.01
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<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	<0.01	<0.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5	<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	<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
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<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	<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	<0.01	<0.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	<0.2	-	-	-	<0.2	-	<0.2	-	-	-	-	<0.0002	-	<0.0002	-	<0.0002	-	-	-	-	0.0090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	<0.0004	-	0.0090	0.0090
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

7	8	7	7	7	8	7	8	7	7	7	7	8	7	8	7	8	7	7	7	7	8	7	7	7	7	7	7	7	7	7	7	7	7	7	8	8	8	7	8	8
0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	0	2	1	2	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4
<2	<0.2	<2	<2	<2	<0.2	<2	<0.2	<5	<5	<0.01	<0.01	<0.0002	<0.01	<0.0002	<0.02	<0.0002	<0.02	0.02	0.01	0.01	0.009	<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	<0.0004	<0.0004	<0.02	0.009	0.009
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.05	0.02	0.01	0.01	0.009	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	0.009
<2	<2	<2	<2	<2	<2	<2	<2	<5	<5	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	<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
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	0.04	ND	0.02	ND	0.07	0.05	0.02	0.02	0.01	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05	0.22
1	0.21	1	1	1	0.21	1	0.21	2.5	2.5	0.0071	0.005	0.011	0.005	0.0063	0.01	0.014	0.016	0.013	0.0086	0.0057	0.008	0.005	0.01	0.01	0.025	0.05	0.25	0.05	0.025	0.025	0.25	0.01	0.01	0.005	0.0044	0.0088	0.01	0.012	0.041
1	0.1	1	1	1	0.1	1	0.1	2.5	2.5	0.005	0.005	0.005	0.005	0.005	0.01	0.005	0.01	0.01	0.005	0.005	0.005	0.005	0.01	0.01	0.025	0.05	0.25	0.05	0.025	0.05	0.025	0.25	0.01	0.01	0.005	0.005	0.01	0.01	0.005	0.007
0	0.32	0	0	0	0.32	0	0.32	0	0	0.0057	0	0.013	0	0.0058	0	0.023	0.015	0.0049	0.0056	0.0019	0.0053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0017	0.0035	0	0.016	0.076
1	0.426	1	1	1	0.426	1	0.426	2.5	2.5	0.0113	0.005	0.0195	0.005	0.0102	0.01	0.0299	0.0268	0.0164	0.0127	0.0071	0.0115	0.005	0.01	0.01	0.025	0.05	0.25	0.05	0.025	0.05	0.025	0.25	0.01	0.01	0.005	0.00554	0.0111	0.01	0.0222	0.0918
0	0	0	0	0	0	0	0	0	0	14	0	25	0	12	0	25	14	29	43	14	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	50
100	100	100	100	100	100	100	100	100	100	86	100	75	100	88	100	75	86	71	57	86	62	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	62	50

				Arsenic Speciation						NA				Physico-Chemical & Major Ions															
				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)	Sulphate	Alkalinity (Hydroxide) as CaCO3	Carbonate as CaCO3	Bicarbonate as CaCO3	Alkalinity (total) as CaCO3	Calcium (filtered)	Magnesium (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	mg/L	mg/L	mg/L	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	1	1	1	1	1	0.5	0.5
Lab Report Numl	**Field ID**	**Date**	**Matrix Type**																										
300546	**ENV_293**	**13/07/2022**	**Water**	-	-	-	-	-	-	-	-	-	-	**101**	-	**6.1**	-	**9.1**	**9,100**	**3,900**	-	**900**	<5	<5	**200**	**200**	**120**	**330**
300546	**QA1**	**13/07/2022**	**Water**	-	-	-	-	-	-	-	-	-	-	**106**	-	**6.1**	-	**8.1**	**8,900**	**3,900**	-	**900**	<5	<5	**190**	**190**	**120**	**330**
RPD				-	-	-	-	-	-	-	-	-	-	5	-	0	-	12	2	0	-	0	0	0	5	5	0	0
300546	**ENV_293**	**13/07/2022**	**Water**	-	-	-	-	-	-	-	-	-	-	**101**	-	**6.1**	-	**9.1**	**9,100**	**3,900**	-	**900**	<5	<5	**200**	**200**	**120**	**330**
ES2225074	**QA1-S**	**13/07/2022**	**Water**	-	-	-	-	-	-	-	-	-	-	**114**	**6.20**	**7.07**	**13,300**	**5.3**	**8,680**	**4,730**	**840**	-	<1	<1	**186**	**186**	**131**	**316**
RPD				-	-	-	-	-	-	-	-	-	-	12	-	15	-	53	5	19	-	-	0	0	7	7	9	4
300573	**SMW_BH057_s**	**15/07/2022**	**Water**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	**1,100**	**220**	-	**300**	<5	<5	**230**	**230**	**36**	**66**
300573	**QA2**	**15/07/2022**	**Water**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	**1,100**	**240**	-	**310**	<5	<5	**250**	**250**	**36**	**66**
RPD				0	-	0	-	0	-	0	-	0	-	-	-	-	-	-	0	9	-	3	0	0	8	8	0	0
300573	**SMW_BH057_s**	**15/07/2022**	**Water**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	**1,100**	**220**	-	**300**	<5	<5	**230**	**230**	**36**	**66**
ES2225151	**QA2_S**	**15/07/2022**	**Water**	-	<1	-	<1	-	<1	-	**1.2**	-	**1.1**	**21.2**	**6.63**	**7.30**	**1,720**	**4.7**	**962**	**256**	**333**	-	<1	<1	**211**	**211**	**41**	**66**
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	15	-	-	0	0	9	9	13	0
301190	**SMW_ENV089**	**22/07/2022**	**Water**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	**1,000**	**280**	-	**56**	<5	<5	**440**	**440**	**92**	**160**
301190	**QA3**	**22/07/2022**	**Water**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	**940**	**270**	-	**54**	<5	<5	**450**	**450**	**88**	**150**
RPD				0	-	0	-	0	-	0	-	0	-	-	-	-	-	-	6	4	-	4	0	0	2	2	4	6
301190	**SMW_ENV089**	**22/07/2022**	**Water**	<1	-	<1	-	<1	-	<1	-	<1	-	-	-	-	-	-	**1,000**	**280**	-	**56**	<5	<5	**440**	**440**	**92**	**160**
ES2226073	**QA3_S**	**22/07/2022**	**Water**	-	-	-	-	-	-	-	-	-	-	**53.0**	**6.95**	**7.08**	**1,720**	**6.2**	**1,040**	**331**	**67**	-	<1	<1	**409**	**409**	**68**	**26**
RPD				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	17	-	-	0	0	7	7	30	144

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: No limit (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 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**

						Nutrients													Metals										
Sodium (filtered)	Potassium (filtered)	Anions Total	Cations Total	Ionic Balance	Hardness as CaCO3 (filtered)	Ammonia as N	Ammonia as N (filtered)	Kjeldahl Nitrogen Total	Nitrogen (Total Oxidised)	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)	Lead (filtered)	Manganese (filtered)
mg/L	mg/L	meq/L	meq/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	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	µg/L	mg/L
0.5	0.5	0.01	0.01	0.01	1	0.005	0.005	0.1	0.005	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	1	0.005
2,000	11	-	-	-4.0	-	-	0.18	0.2	-	-	1.0	-	0.12	-	1.4	-	-	0.007	<0.01	<1	0.1	<0.001	<0.005	-	<1	1	-	<1	1.1
1,900	10	-	-	-7.0	-	-	0.19	0.2	-	-	1.0	-	0.12	-	1.4	-	-	0.007	<0.01	<1	0.2	<0.001	<0.005	-	<1	1	-	<1	1
5	10	-	-	55	-	-	5	0	-	-	0	-	0	-	0	-	-	0	0	0	67	0	0	-	0	0	-	0	10
2,000	11	-	-	-4.0	-	-	0.18	0.2	-	-	1.0	-	0.12	-	1.4	-	-	0.007	<0.01	<1	0.1	<0.001	<0.005	-	<1	1	-	<1	1.1
2,210	9	155	129	9.07	1,630	0.170	-	-	-	1.02	-	0.099	-	1.12	1.88	0.032	-	0.019	0.005	-	0.14	<0.001	<0.001	-	<0.2	1.8	-	-	-
10	20	-	-	516	-	-	-	-	-	-	-	-	-	-	29	-	-	92	0	-	33	0	0	-	0	57	-	-	-
220	19	-	-	0	-	-	0.16	-	0.02	-	-	-	-	-	0.4	-	-	<0.005	<0.01	2	<0.1	<0.005	-	-	<1	<1	7.7	<1	1.4
220	19	-	-	-2.0	-	-	0.16	-	0.03	-	-	-	-	-	0.4	-	-	<0.005	<0.01	2	<0.1	<0.005	-	-	<1	<1	7.8	<1	1.4
0	0	-	-	200	-	-	0	-	40	-	-	-	-	-	0	-	-	0	0	0	0	0	-	-	0	0	1	0	0
220	19	-	-	0	-	-	0.16	-	0.02	-	-	-	-	-	0.4	-	-	<0.005	<0.01	2	<0.1	<0.005	-	-	<1	<1	7.7	<1	1.4
220	20	18.4	17.6	2.26	374	0.18	-	0.4	-	<0.01	-	<0.01	-	<0.01	0.4	0.02	<0.01	-	<0.005	-	<0.05	<0.001	-	<0.001	<1	-	-	-	-
0	5	-	-	200	-	-	-	-	-	-	-	-	-	-	0	-	-	-	0	-	0	0	-	-	0	-	-	-	-
1,800	180	-	-	70	-	-	17	-	0.03	-	-	-	-	-	13	-	-	<0.05	0.01	9	<0.1	<0.005	-	-	3	<1	480	<1	1.4
1,600	170	-	-	68	-	-	15	-	<0.01	-	-	-	-	-	14	-	-	<0.05	0.01	10	<0.1	<0.005	-	-	4	<1	490	<1	1.4
12	6	-	-	3	-	-	12	-	100	-	-	-	-	-	7	-	-	0	0	11	0	0	-	-	29	0	2	0	0
1,800	180	-	-	70	-	-	17	-	0.03	-	-	-	-	-	13	-	-	<0.05	0.01	9	<0.1	<0.005	-	-	3	<1	480	<1	1.4
256	24	18.9	17.3	4.48	277	2.75	-	3.0	-	0.26	-	<0.01	-	0.26	3.3	0.16	<0.01	-	0.011	-	<0.05	<0.010[#2]	-	<0.010[#2]	3	-	-	-	-
150	153	-	-	176	-	-	-	-	-	-	-	-	-	-	119	-	-	-	10	-	0	0	-	-	0	-	-	-	-

					BTEX									TRH							MAH							
Mercury (filtered)	Nickel (filtered)	Phosphorus	Vanadium (filtered)	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	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
µg/L	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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.005	1	0.05	0.0002	1	1	1	1	2	1	2	1	1	1	10	10	50	50	100	100	50	1	1	1	1	1	1	1	1
<0.05	**7**	<0.05	-	**6**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1
<0.05	**6**	<0.05	-	**4**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1
0	15	0	-	40	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<0.05	**7**	<0.05	-	**6**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1
0.008	-	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5
0	-	-	-	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<0.05	**2**	<0.05	-	**4**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1
<0.05	**2**	<0.05	-	**5**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1
0	0	0	-	22	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<0.05	**2**	<0.05	-	**4**	<1	<1	<1	<2	<1	-	<1	<1	-	<10	<10	<50	<50	<100	<100	<50	<1	<1	<1	<1	<1	<1	<1	<1
-	-	-	<0.0002	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5
-	-	-	-	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<0.05	<1	**0.4**	-	<1	<1	<1	<1	<2	<1	-	<1	<10	-	<100	<10	**110**	**110**	**500**	<100	**610**	<1	<1	<1	<1	<1	<1	<1	<1
<0.05	<1	**0.3**	-	<1	<1	<1	<1	<2	<1	-	<1	<10	-	<100	<10	**120**	**120**	**530**	<100	**650**	<1	<1	<1	<1	<1	<1	<1	<1
0	0	29	-	0	0	0	0	0	0	-	0	0	-	0	0	9	9	6	0	6	0	0	0	0	0	0	0	0
<0.05	<1	**0.4**	-	<1	<1	<1	<1	<2	<1	-	<1	<10	-	<100	<10	**110**	**110**	**500**	<100	**610**	<1	<1	<1	<1	<1	<1	<1	<1
-	-	-	-	-	<1	<2	<2	<2	<2	<2	<1.0	<5	<1	<20	<20	<100	<100	<100	<100	<100	<5	<5	<5	<5	<5	<5	<5	<5
-	-	-	-	-	0	0	0	0	0	-	0	0	-	0	0	10	10	133	0	144	0	0	0	0	0	0	0	0

	Halogenated Benzenes												PAH																
tert-butylbenzene	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	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
µg/L	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	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	1	2	1	1	1	1	1	1	1	1	0.2	2	0.002	2	2	2	2	1	1	1	1	0.5	0.001	1	1	1	1	1	1
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
<5	<5	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	-	<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
0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
<5	<5	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<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	<1.0
0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0
<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<2	<0.002	<2	<2	<2	<2	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1
<5	<5	-	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	-	<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
0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	-	0	-	0	0	0	0

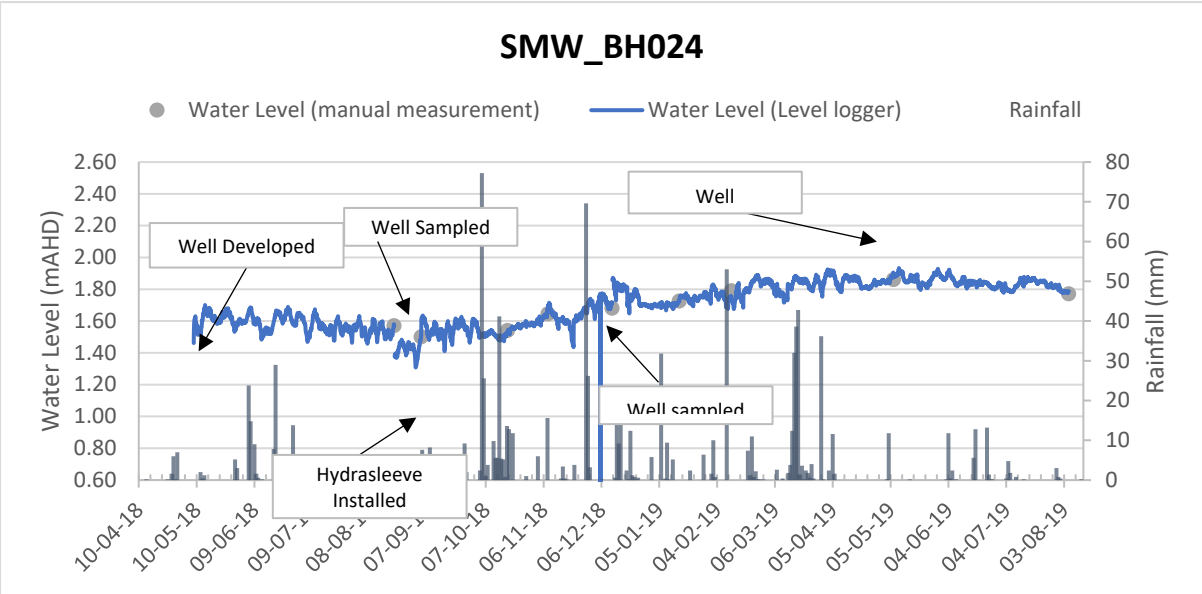
							TPH					Phenols																	
Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	PAHs (Sum of positives)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4-Dinitrophenol	2,4,6-Trichlorophenol	2,6-D	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	3&4-Methylphenol (m&p-cresol)	2-Nitrophenol	4,6-Dintro-2-methylphenol	4-Nitrophenol	4-chloro-3-methylphenol	Picloram	Pentachlorophenol	Phenol
µg/L	µg/L	µg/L	mg/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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	1	1	0.005	0.0005	0.5	0.001	10	50	100	50	50	2	2	0.02	2	0.0005	2	2	2	2	2	4	2	20	20	2	1	4	2
<1	<1	<1	<0.005	-	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	<2
<1	<1	<1	<0.005	-	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	<2
0	0	0	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<1	<1	<1	<0.005	-	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	<2
<1.0	<1.0	<1.0	-	<0.0005	<0.5	-	<20	<50	<100	<50	<50	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	<10	-	-
0	0	0	-	-	-	-	0	0	0	0	0	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	-	-
<1	<1	<1	<0.005	-	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	<2
<1	<1	<1	<0.005	-	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	<2
0	0	0	0	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<1	<1	<1	<0.005	-	-	0[#1]	<10	<50	<100	<100	<50	<2	<2	<0.02	<2	<0.0005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<1	<10	<2
<1.0	<1.0	<1.0	-	<0.0005	<0.5	-	<20	<50	<100	<50	<50	-	<2	-	<2	<0.01	<2	<2	<2	<2	<2	<4	<2	-	-	<2	<10	<4	<2
0	0	0	-	-	-	-	0	0	0	0	0	-	0	-	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0
<1	<1	<1	<0.005	-	-	0[#1]	<100	**50**	**500**	<100	**550**	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<10	<2
<1	<1	<1	<0.005	-	-	0[#1]	<100	**55**	**560**	<100	**610**	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<10	<2
0	0	0	0	-	-	-	0	10	11	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<1	<1	<1	<0.005	-	-	0[#1]	<100	**50**	**500**	<100	**550**	<2	<2	<0.02	<2	<0.005	<2	<2	<2	<2	<2	<4	<2	<20	<20	<10	<10	<10	<2
<1.0	<1.0	<1.0	-	<0.0005	<0.5	-	<20	<50	<100	<50	<50	-	<2	-	<2	<0.01	<2	<2	<2	<2	<2	<4	<2	-	-	<2	<10	<4	<2
0	0	0	-	-	-	-	0	0	133	0	167	-	0	-	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0

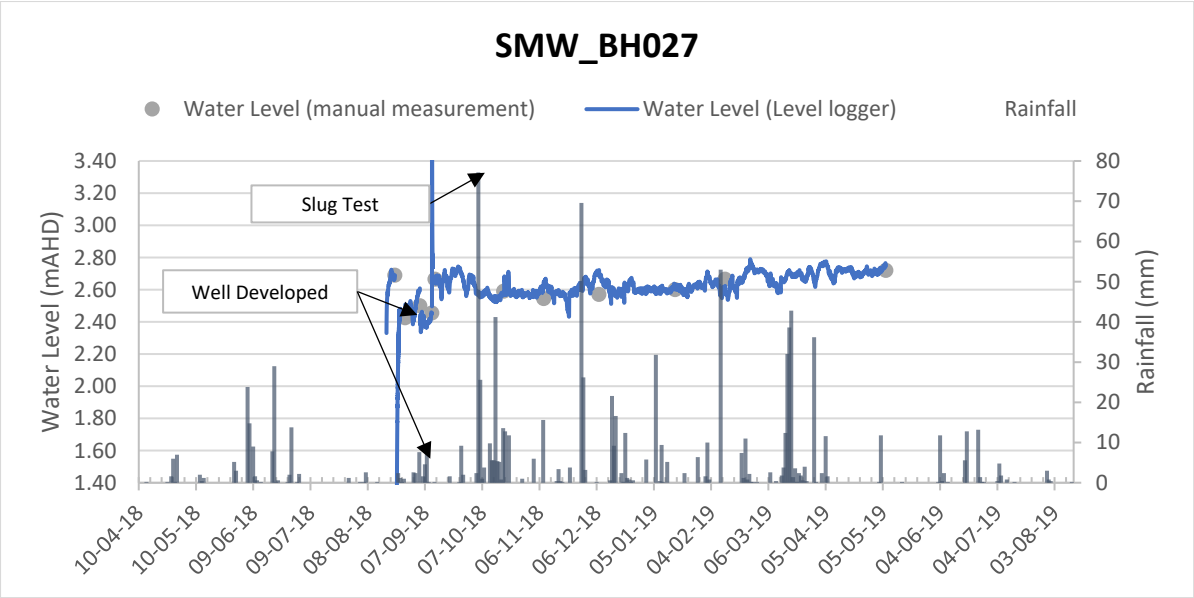
Organochlorine Pesticides																													
4,4-DDE	a-BHC	Aldrin + Dieldrin	Aldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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
0.2	0.2	0.5	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	0.2	0.5	0.5	0.2	0.0002	2
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	-
0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	-
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	-
0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	-
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.0002	<2
<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	-
0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	-

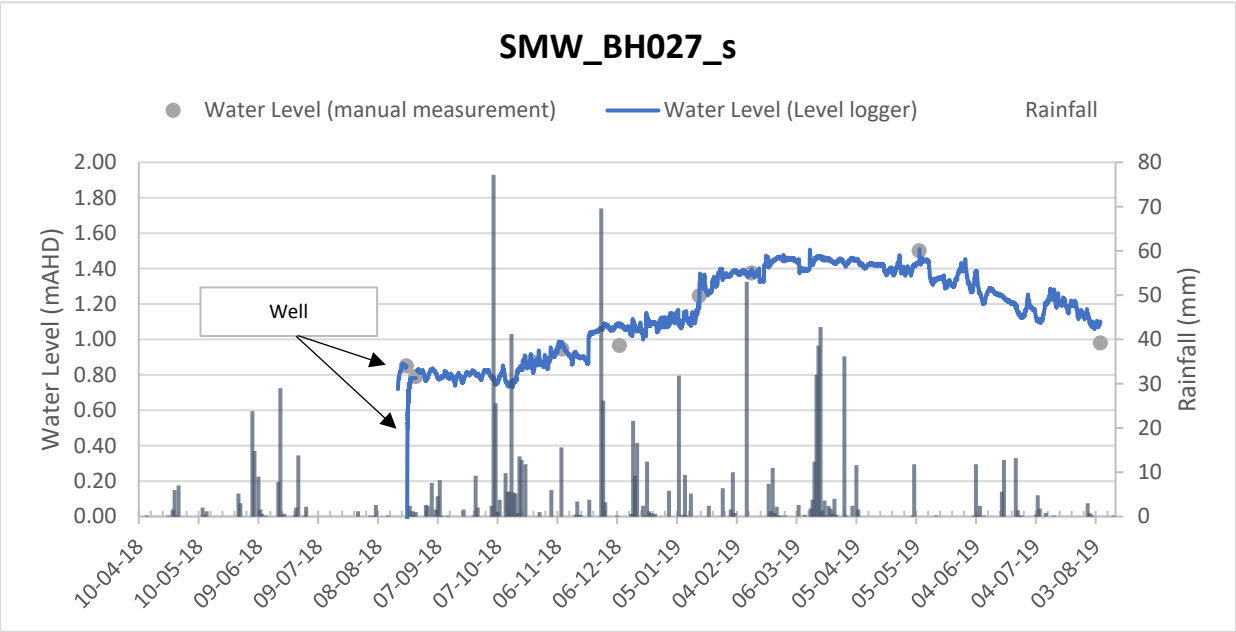
Organophosphorous Pesticides																				Pesticides			Perfluoroalkyl Sulfonic Acids						
Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl methanesulfonate	Ethion	Fenitrothion	Fenamiphos	Fenthion	Malathion	Methidathion	Mevinphos (Phosdrin)	Methyl parathion	Monocrotophos	Parathion	Phorate	Prothiofos	Ronnel	Safrole	Chlorobenziate	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
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
0.5	0.2	0.2	0.2	2	5	0.2	0.2	0.5	0.5	0.2	2	2	2	2	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
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01
-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0	0	-	0	-	0	0	0	0	0	0	0
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01
<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.01
-	0	0	0	-	-	0	-	0	0	0	-	-	0	-	0	-	-	-	-	-	0	-	0	0	0	0	0	0	0
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	**0.02**	<0.01	**0.05**	<0.01	**0.02**	<0.02	**0.07**
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	**0.02**	<0.01	**0.04**	<0.01	**0.02**	<0.02	**0.07**
-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0	0	-	0	-	0	0	22	0	0	0	0
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	**0.02**	<0.01	**0.05**	<0.01	**0.02**	<0.02	**0.07**
<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.02	<0.02	**0.04**	<0.02	**0.02**	<0.02	**0.06**
-	0	0	0	-	-	0	-	0	0	0	-	-	0	-	0	-	-	-	-	-	0	-	0	0	22	0	0	0	15
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	**0.03**	<0.01	<0.01	<0.02	**0.03**
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	**0.02**	<0.01	<0.01	<0.02	**0.02**
-	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0	0	-	0	-	0	0	40	0	0	0	40
-	<0.2	<0.2	<0.2	<2	<5	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	-	<0.2	<2	-	<0.2	<5	-	<5	-	<0.01	<0.01	**0.03**	<0.01	<0.01	<0.02	**0.03**
<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	<2.0	<2.0	<2.0	-	<0.5	-	-	<2	<2	<0.5	<0.02	<0.02	**0.02**	<0.02	**0.01**	<0.02	**0.03**
-	0	0	0	-	-	0	-	0	0	0	-	-	0	-	0	-	-	-	-	-	0	-	0	0	40	0	0	0	0

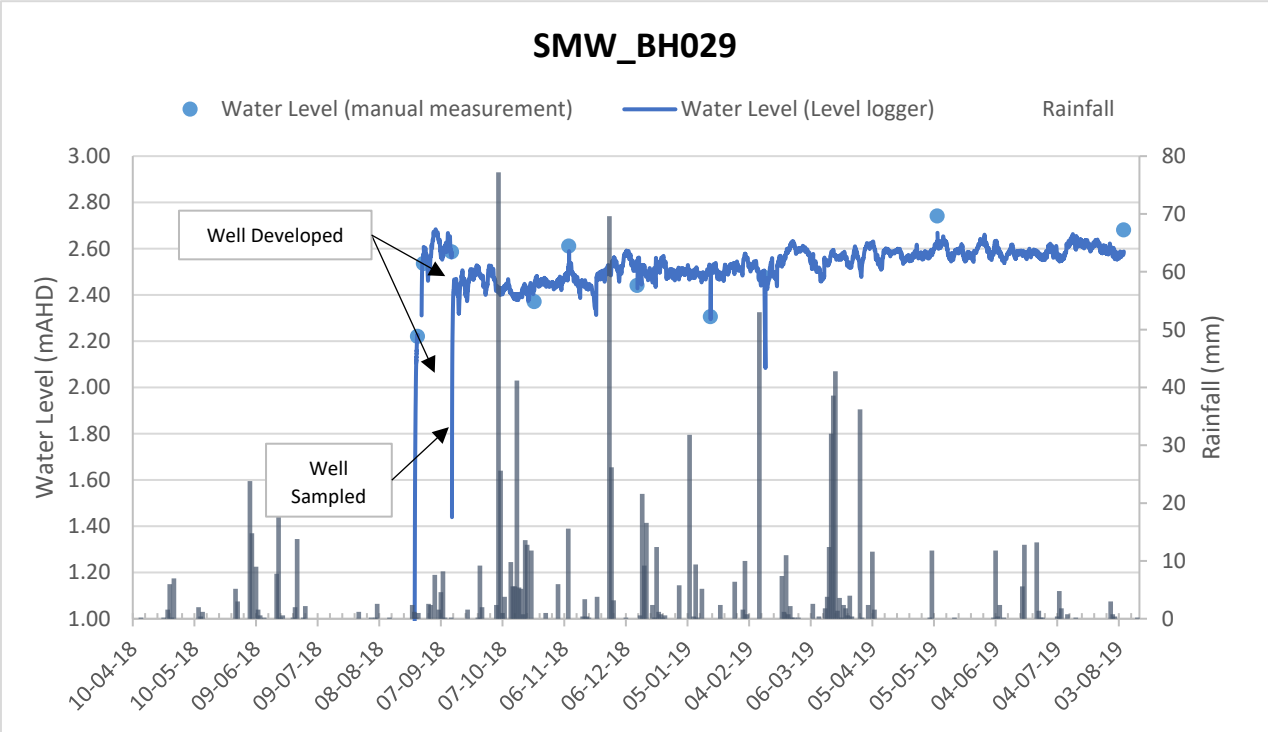
Perfluoroalkyl Carboxylic Acid											Perfluoroalkyl Sulfonamides							Fluorotelomer Sulfonic Acids				PFAS Totals		
Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	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)	N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-ethyl-perfluorooctanesulfonamido acetic 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
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
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	0.05	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.01	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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	**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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	**0.01**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
<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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	**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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.01	-	<0.01
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0
0.05	**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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	**0.04**	**0.22**
0.05	**0.02**	**0.02**	**0.01**	**0.02**	<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	<0.02	<0.02	-	**0.05**	**0.22**
0	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22	0
0.05	**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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	**0.04**	**0.22**
<0.1	<0.02	**0.02**	<0.02	**0.02**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	**0.10**	-	**0.10**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	75
<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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	**0.06**
<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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	**0.01**	**0.07**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	15
<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	<0.5	<0.02	<0.02	<0.01	<0.01	<0.02	<0.02	-	<0.01	**0.06**
0.2	<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	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	**0.23**	-	**0.23**
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	117

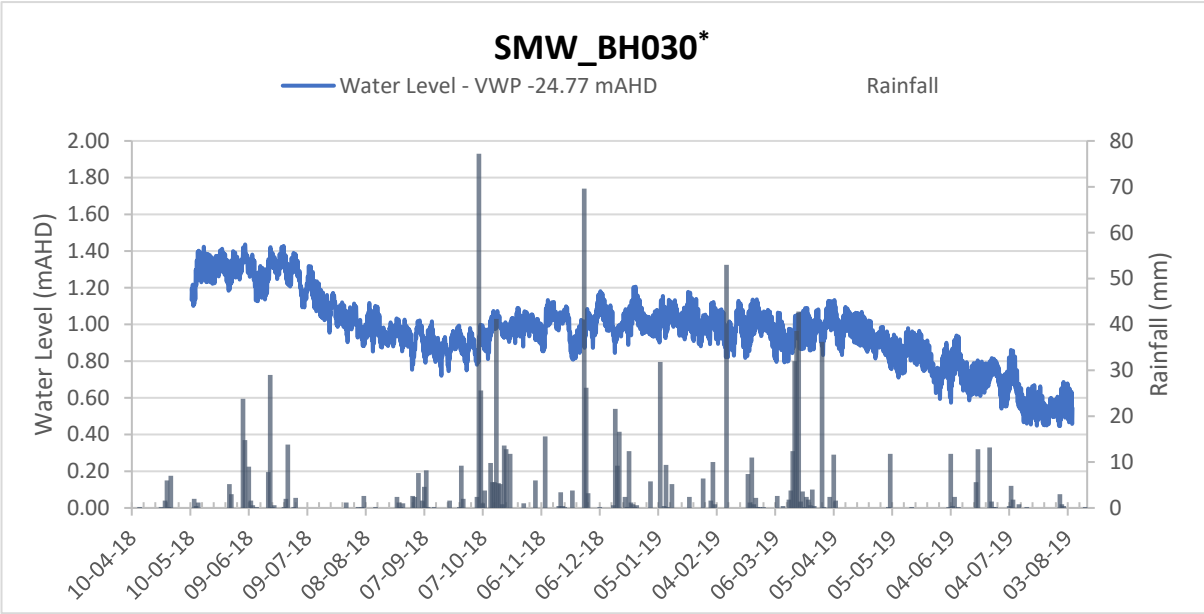
APPENDIX C HYDROGRAPHS

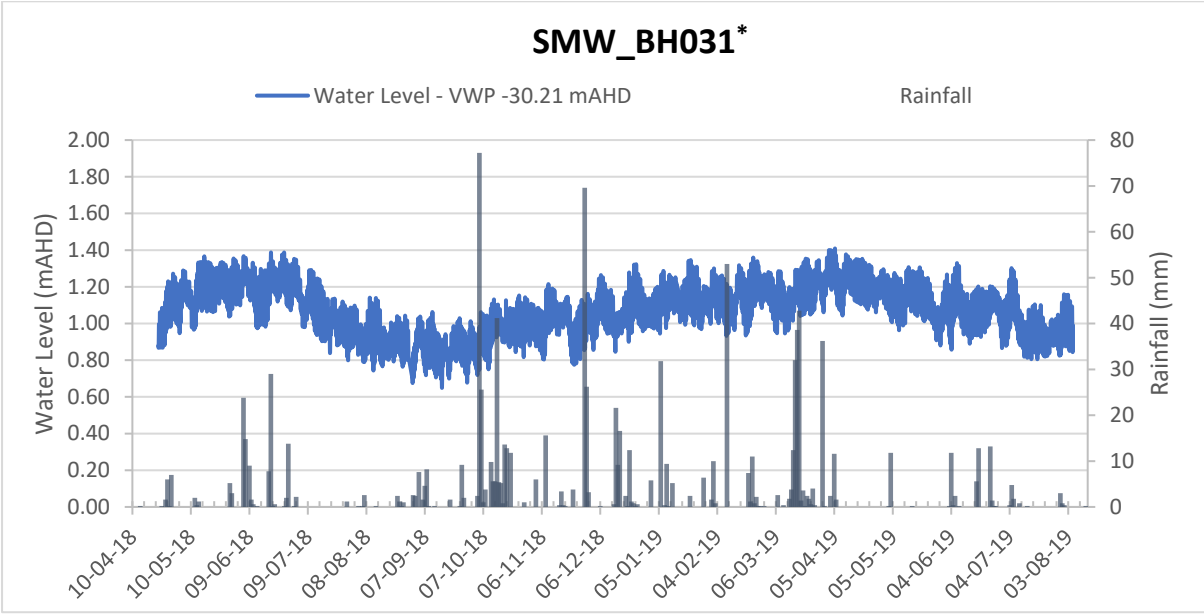

SMW_BH024
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
Well Sampled
Well
Well sampled
Hydrasleeve Installed
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19

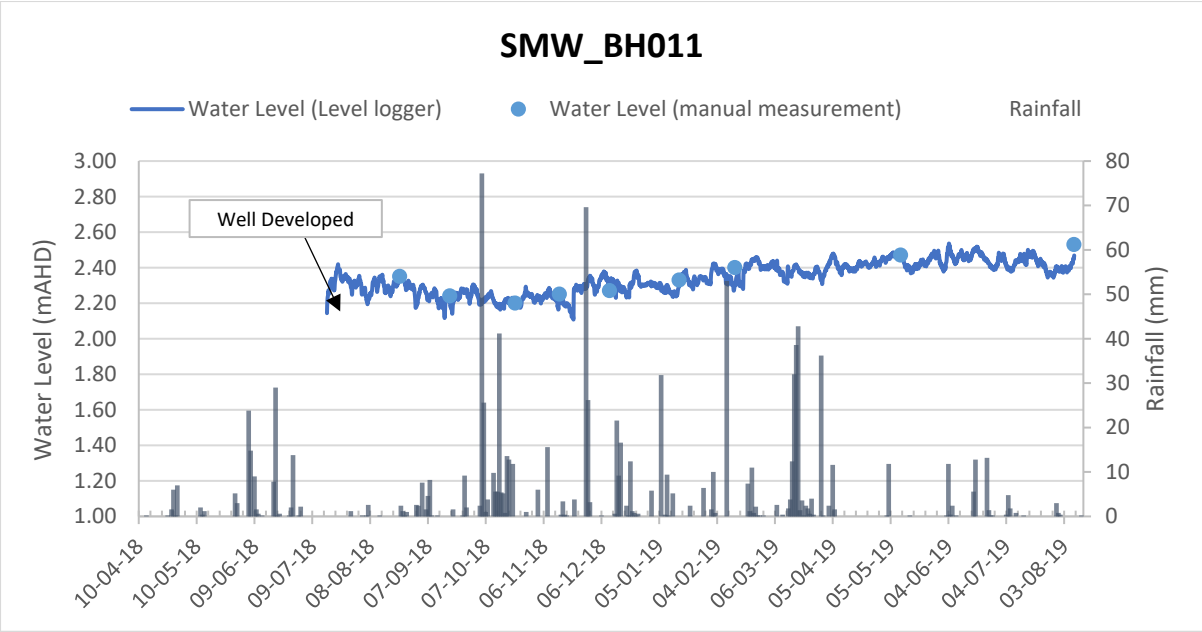

SMW_BH027
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Slug Test
Well Developed
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19

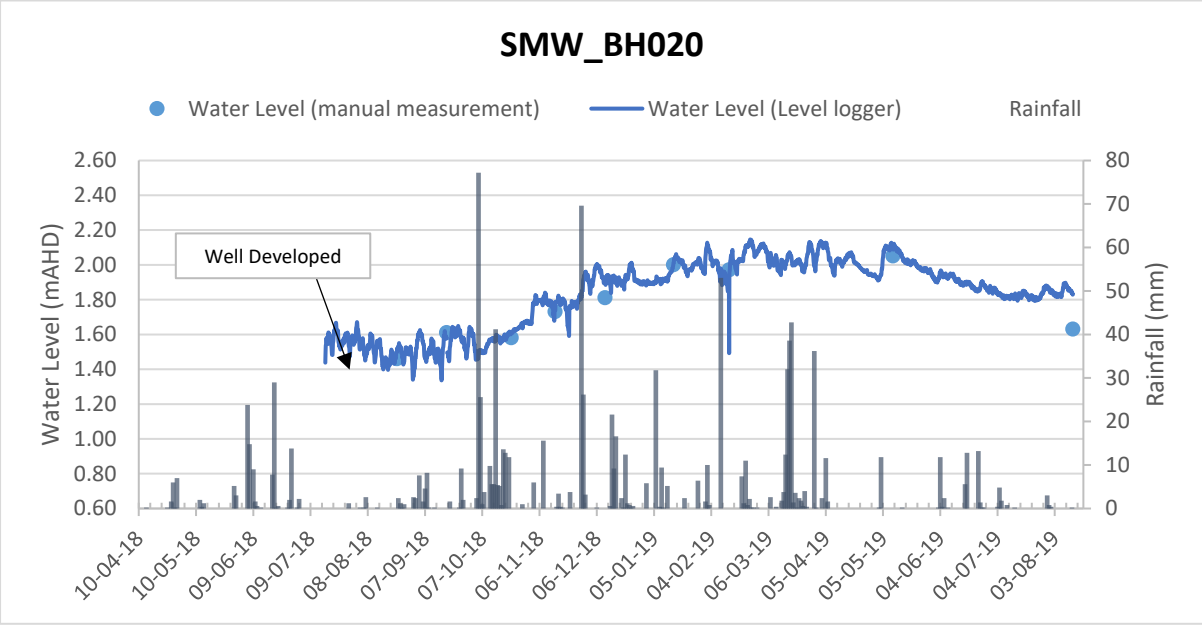

SMW_BH027_s
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19

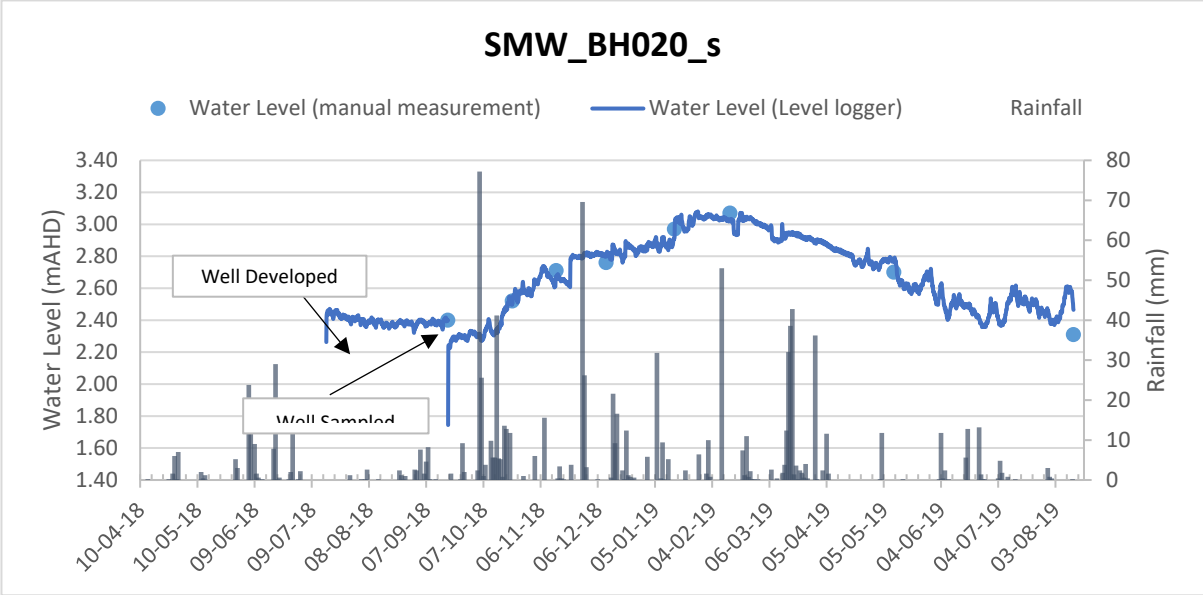

SMW_BH029
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
Well Sampled
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19

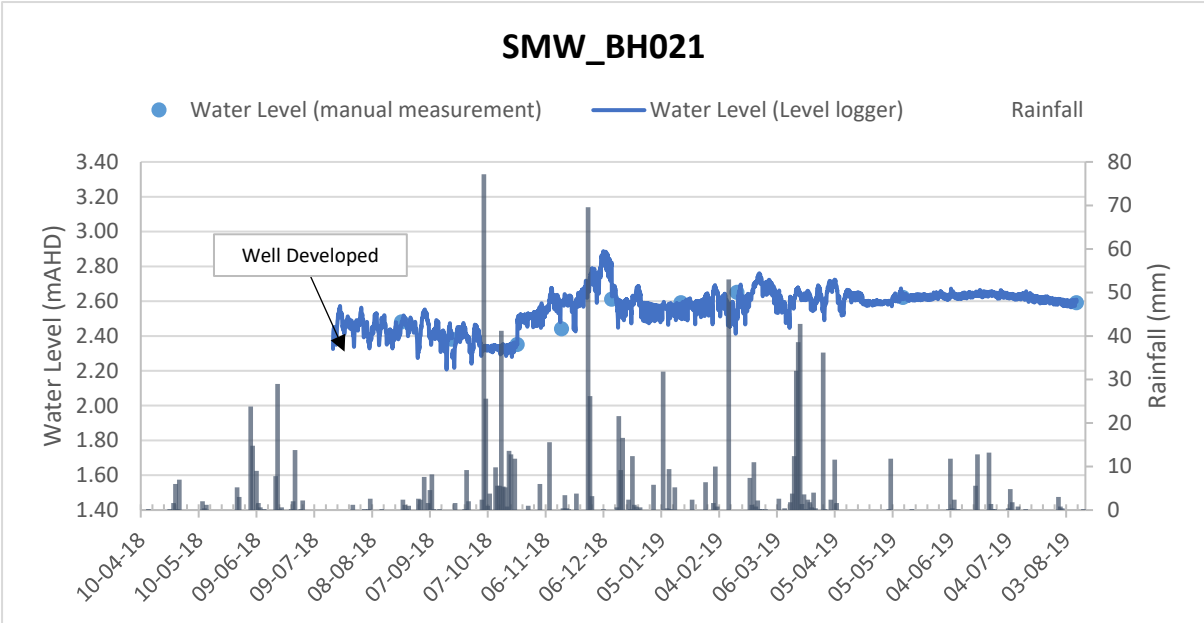

SMW_BH030*
Water Level - VWP -24.77 mAHD
Rainfall
Water Level (mAHD)
Rainfall (mm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19

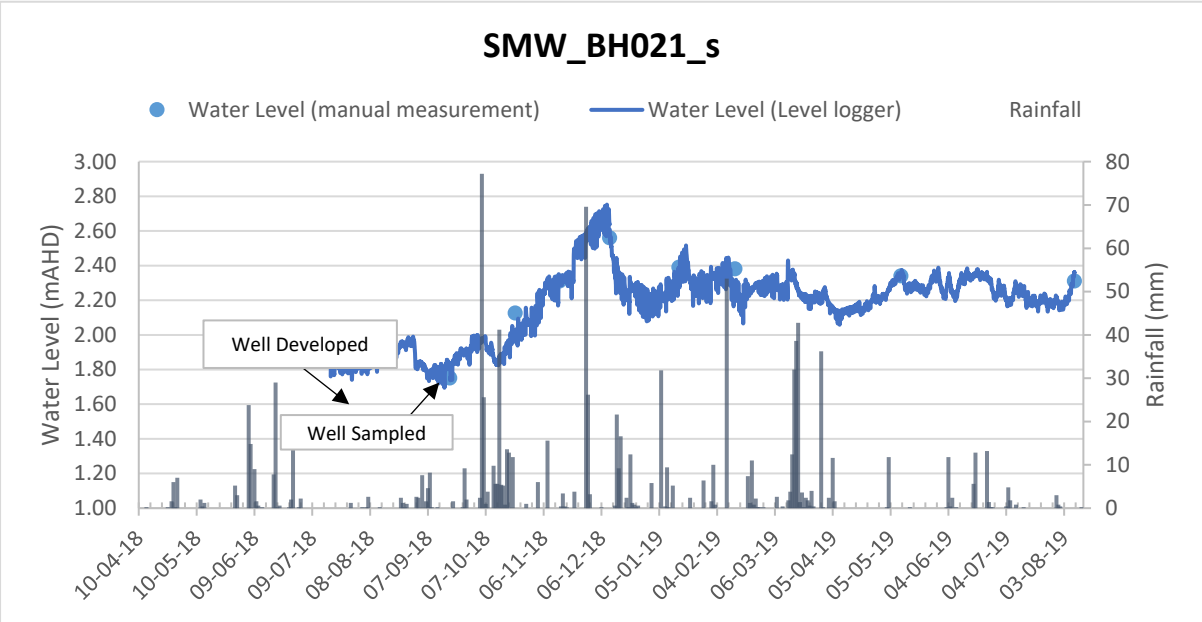

SMW_BH031*
Water Level - VWP -30.21 mAHD
Rainfall
Water Level (mAHD)
Rainfall (mm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19


SMW_BH011
Water Level (Level logger)
Water Level (manual measurement)
Rainfall
Well Developed
Water Level (mAHD)
Rainfall (mm)
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19


SMW_BH020
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Well Developed
Water Level (mAHD)
Rainfall (mm)
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19


SMW_BH020_s
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
Well Sampled
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19


SMW_BH021
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19


SMW_BH021_s
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
Well Sampled
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
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05-04-19
05-05-19
04-06-19
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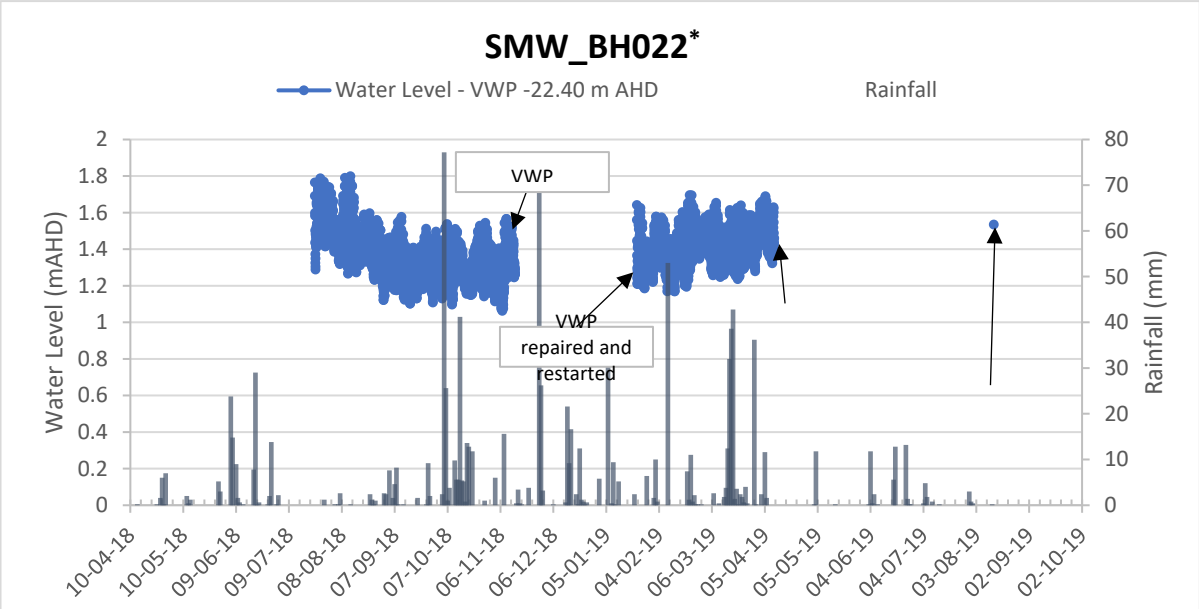
03-08-19


SMW_BH022*
Water Level - VWP -22.40 m AHD
Rainfall
Water Level (mAHD)
Rainfall (mm)
VWP
VWP
repaired and
restarted
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
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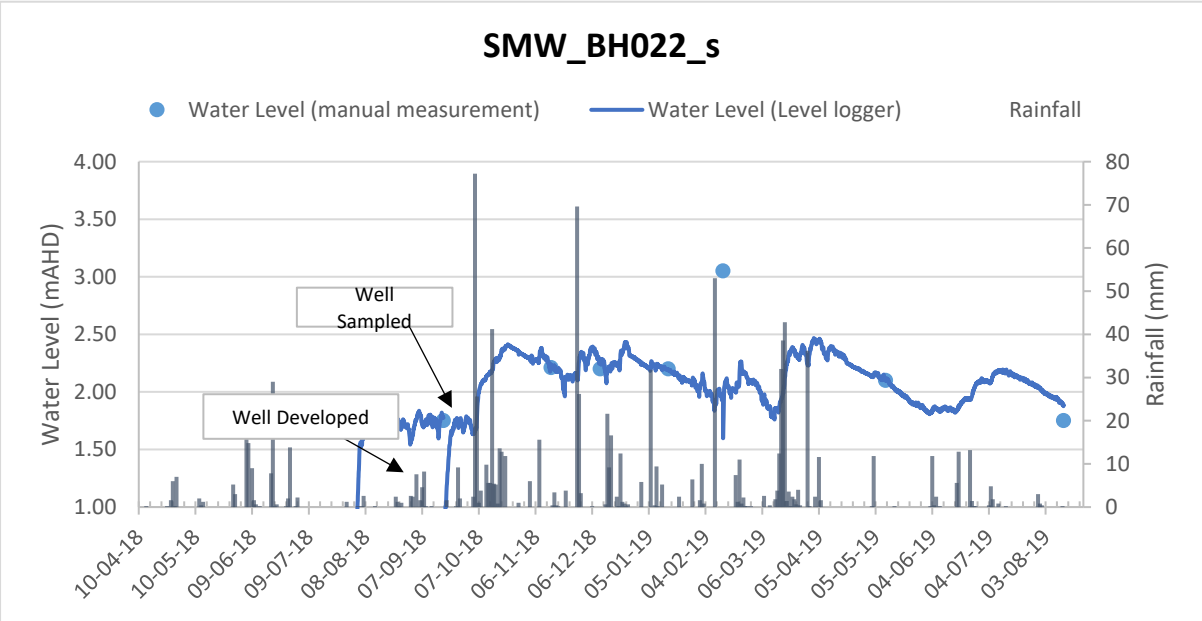
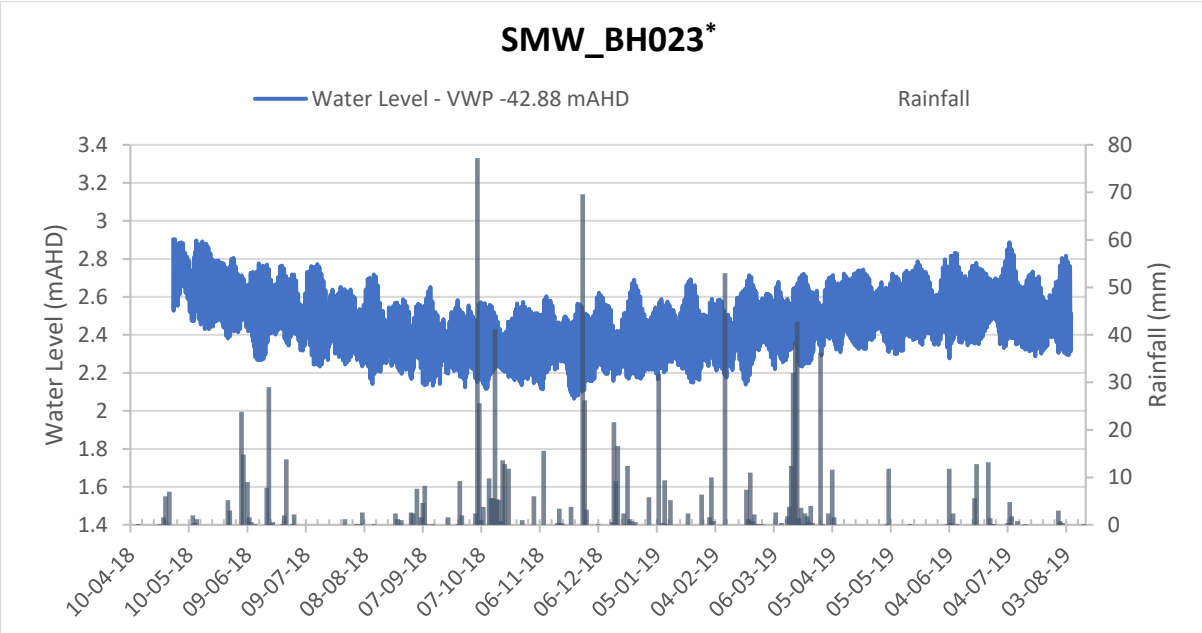
02-10-19


SMW_BH022_s
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Sampled
Well Developed
4.00
3.50
3.00
2.50
2.00
1.50
1.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
04-07-19
03-08-19


SMW_BH023*
Water Level - VWP -42.88 mAHD
Rainfall
Water Level (mAHD)
Rainfall (mm)
3.4
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19
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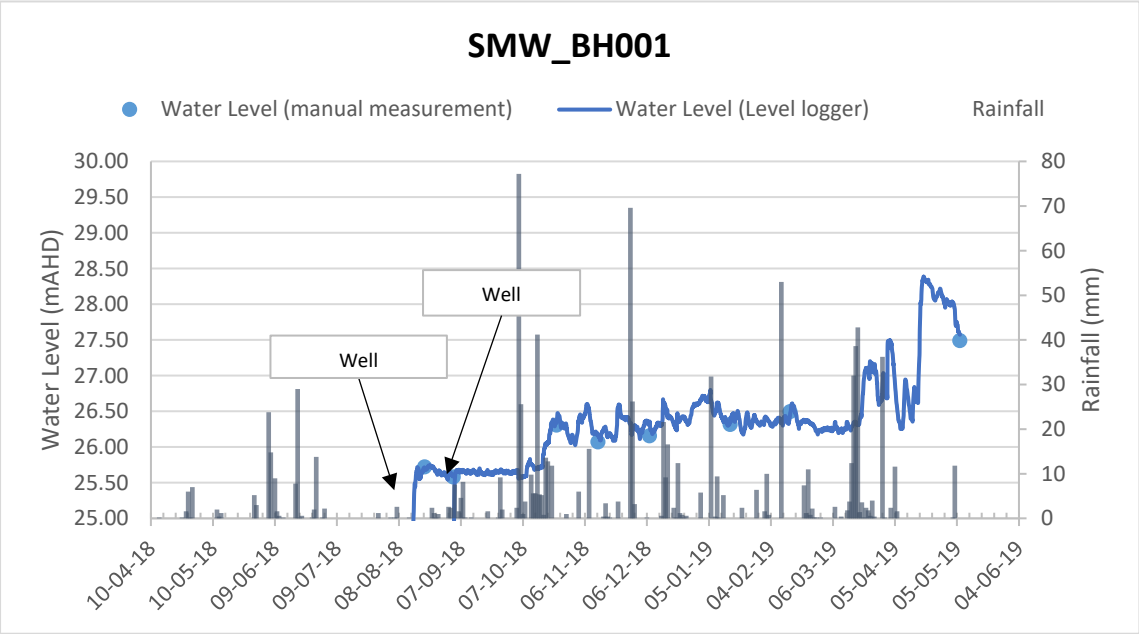
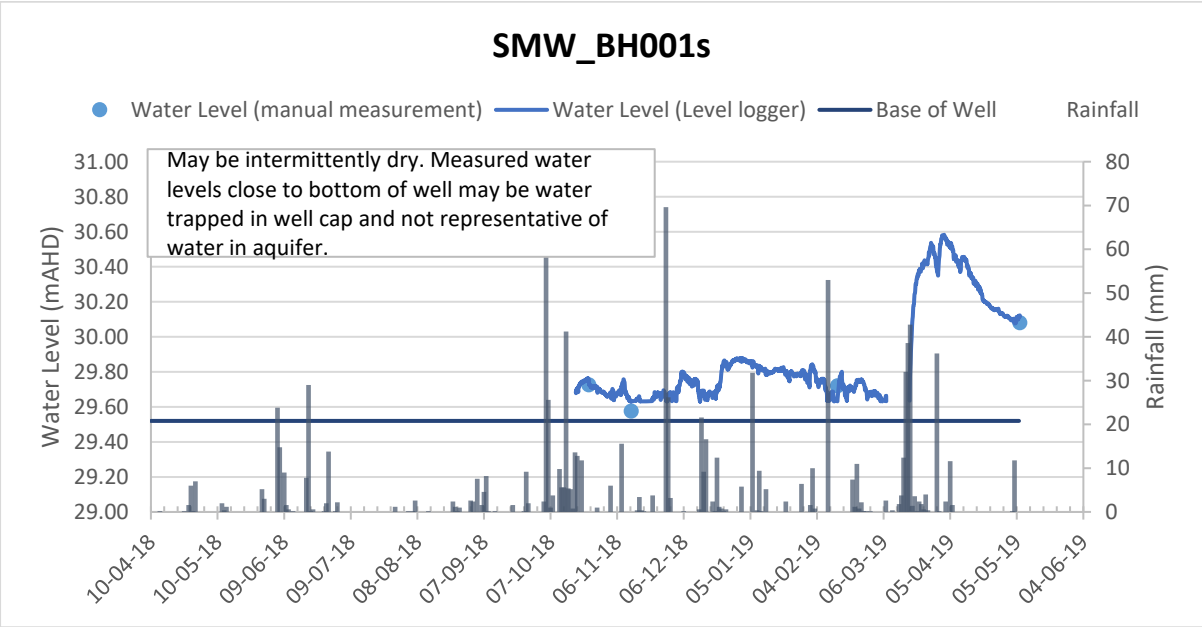
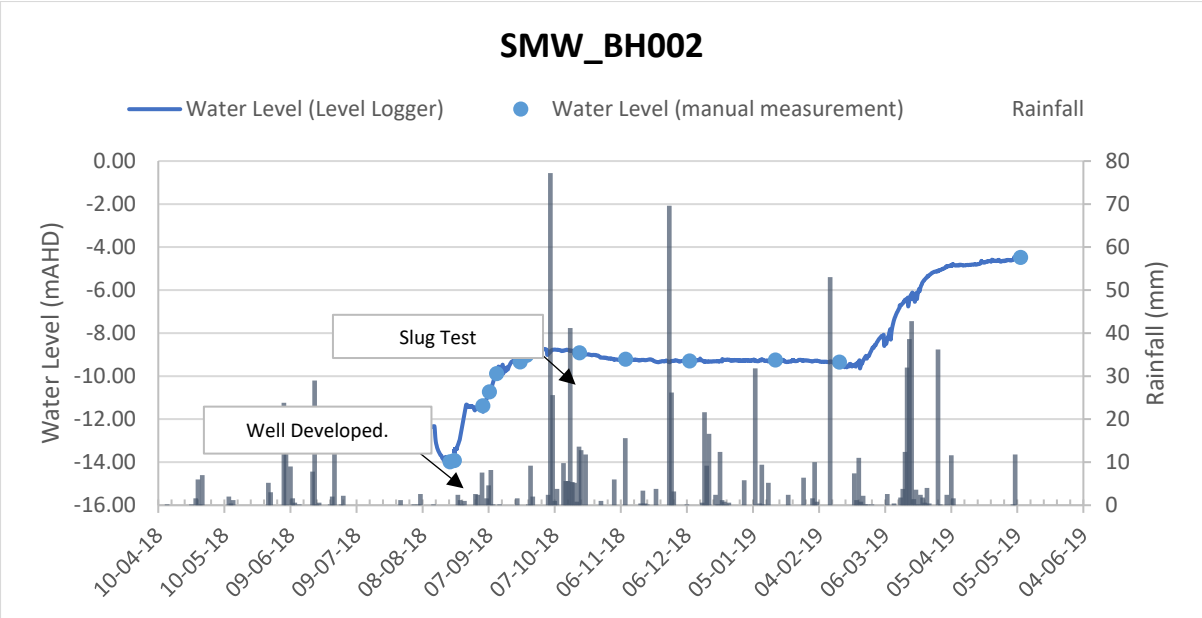
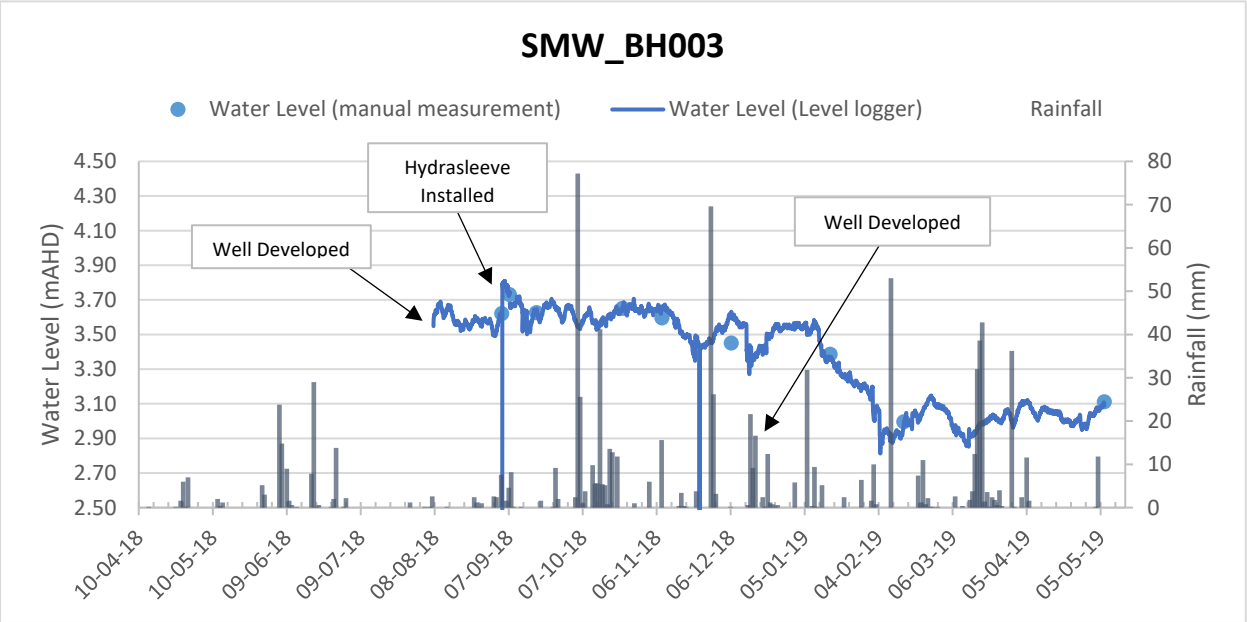
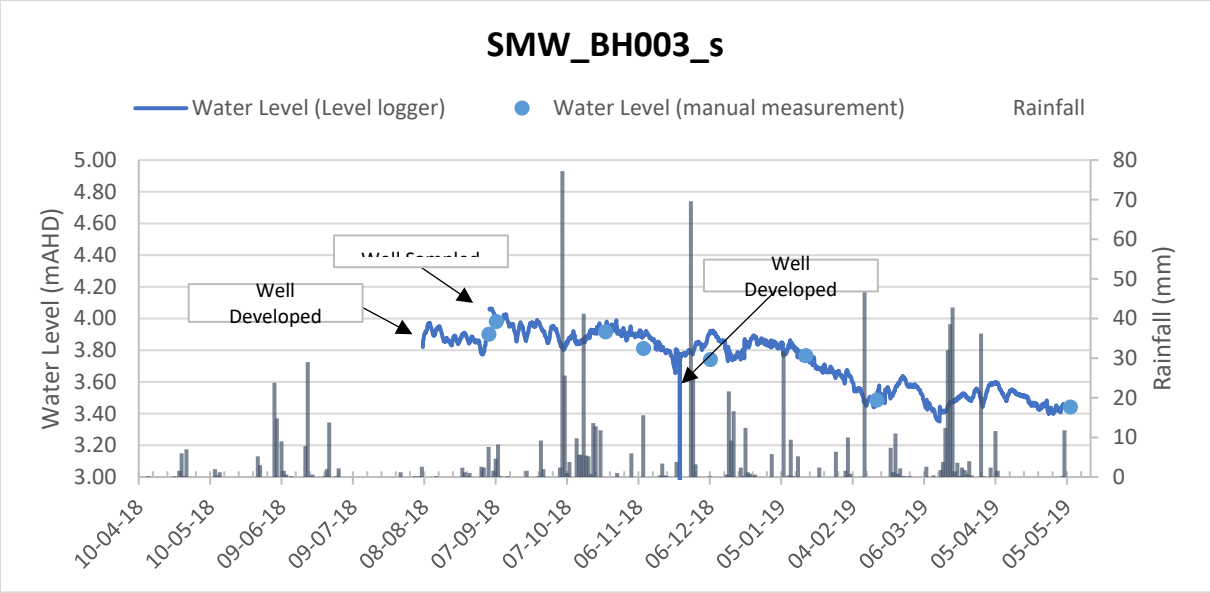
03-08-19

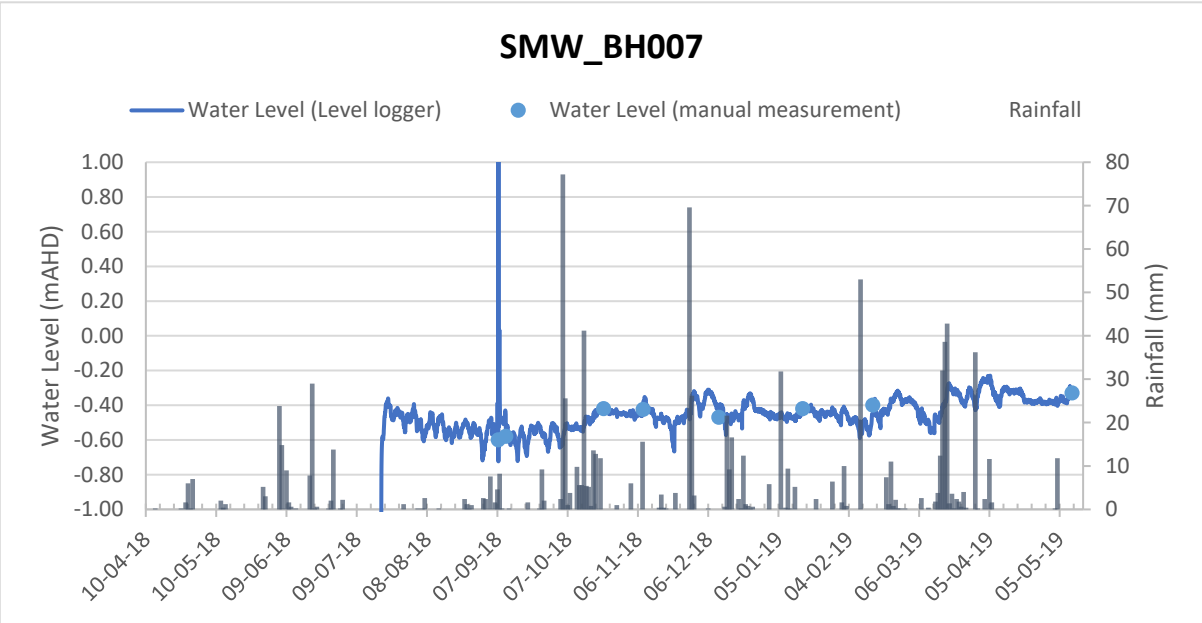

SMW_BH001
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well
Well
30.00
29.50
29.00
28.50
28.00
27.50
27.00
26.50
26.00
25.50
25.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19

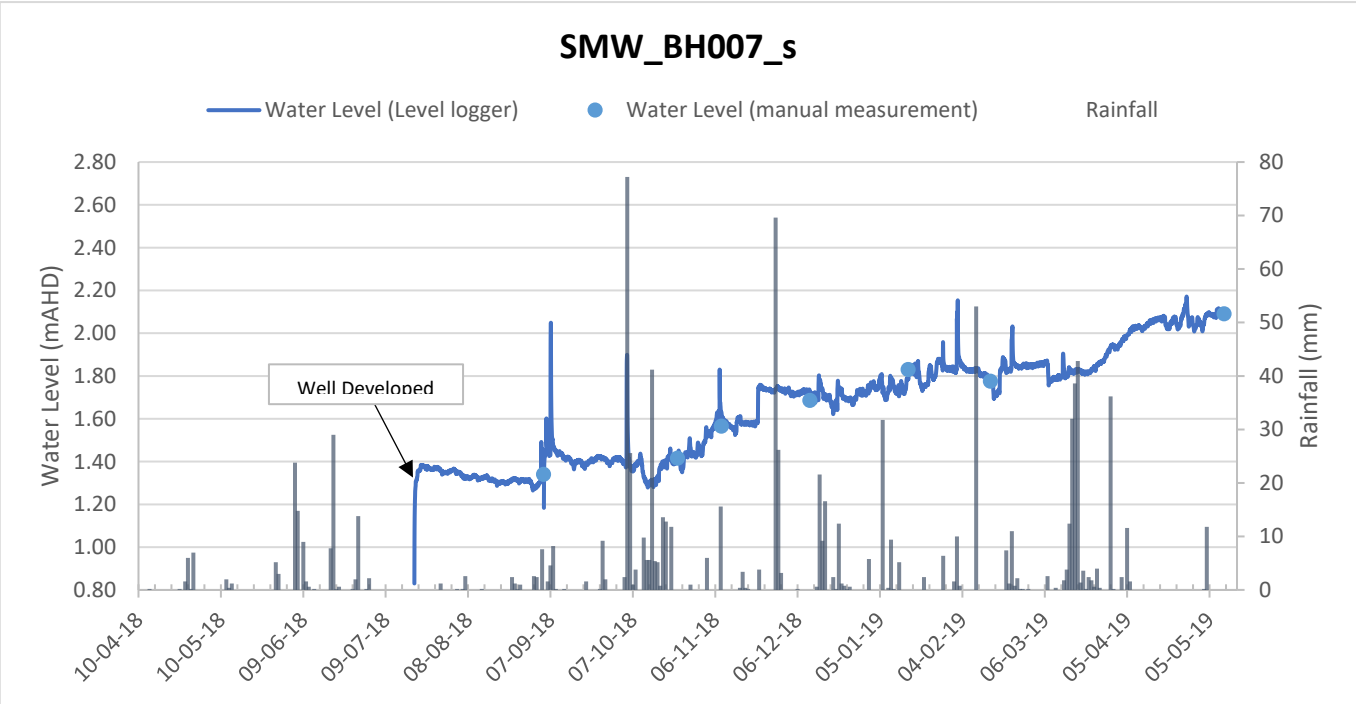

SMW_BH001s
Water Level (manual measurement)
Water Level (Level logger)
Base of Well
Rainfall
May be intermittently dry. Measured water levels close to bottom of well may be water trapped in well cap and not representative of water in aquifer.
Water Level (mAHD)
Rainfall (mm)
31.00
30.80
30.60
30.40
30.20
30.00
29.80
29.60
29.40
29.20
29.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19

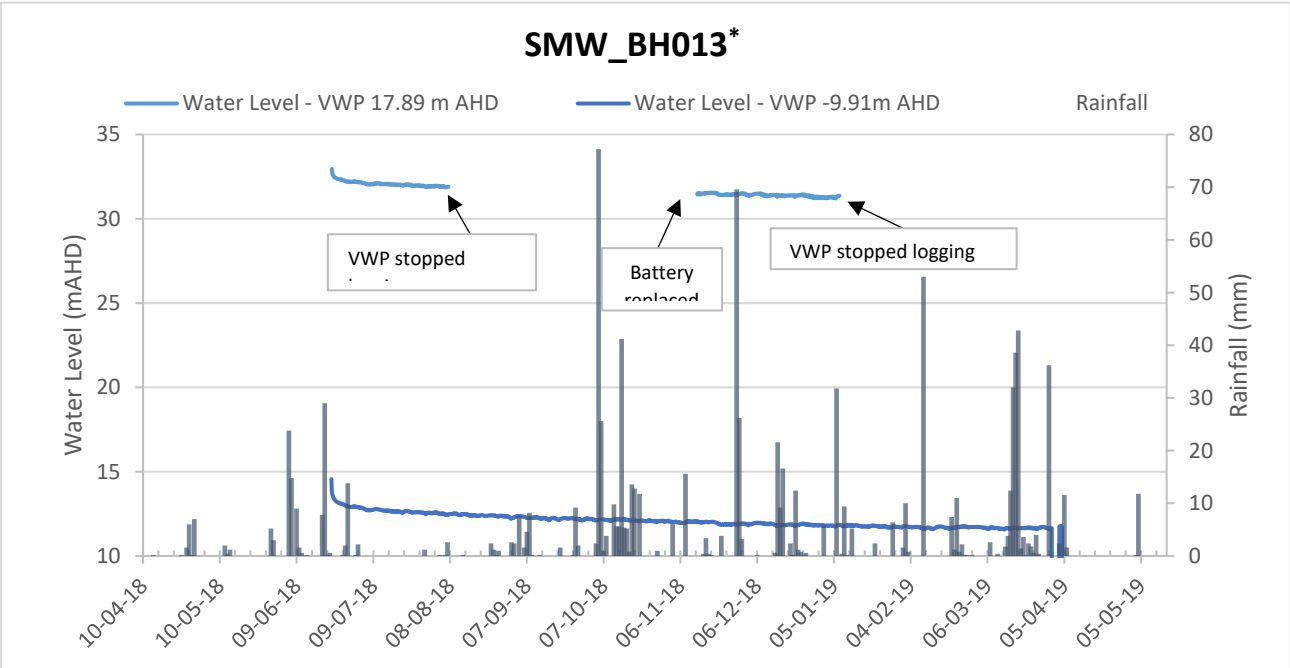

SMW_BH002
Water Level (Level Logger)
Water Level (manual measurement)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Slug Test
Well Developed.
0.00
-2.00
-4.00
-6.00
-8.00
-10.00
-12.00
-14.00
-16.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19
04-06-19

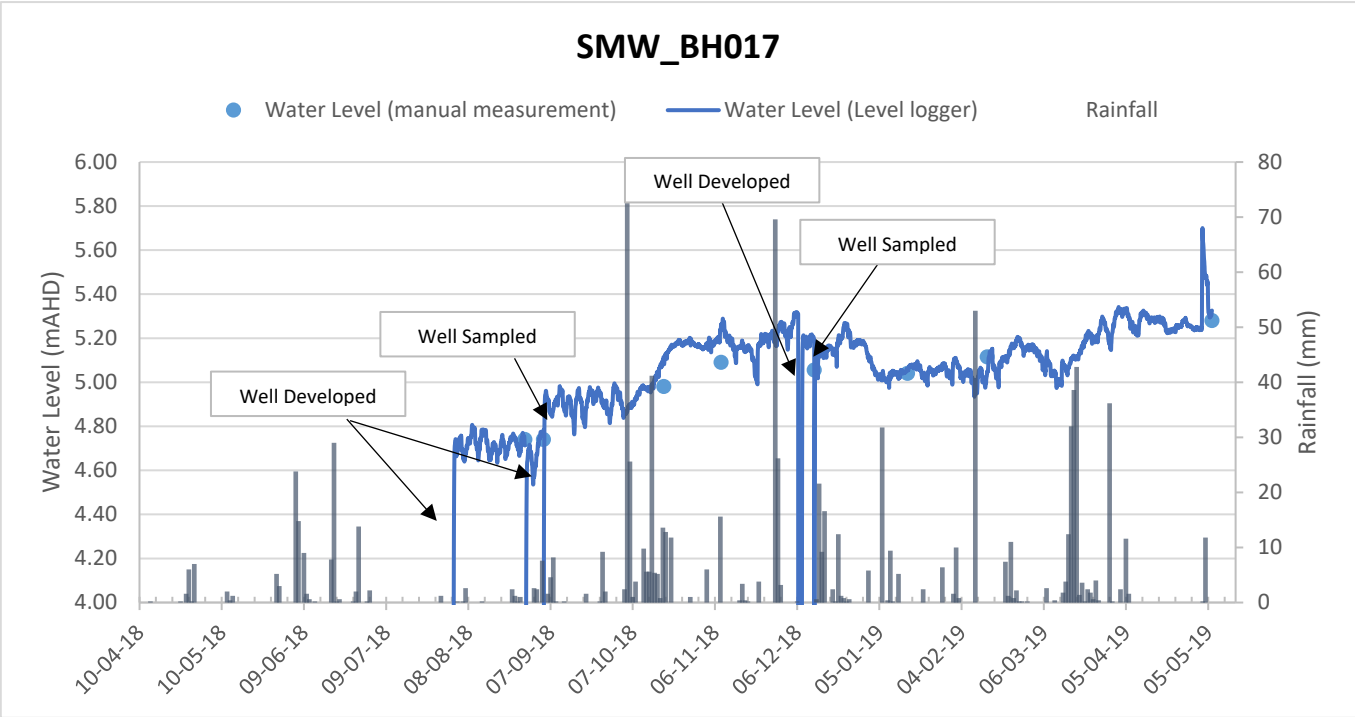

SMW_BH003
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Hydrasleeve Installed
Well Developed
Well Developed
4.50
4.30
4.10
3.90
3.70
3.50
3.30
3.10
2.90
2.70
2.50
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

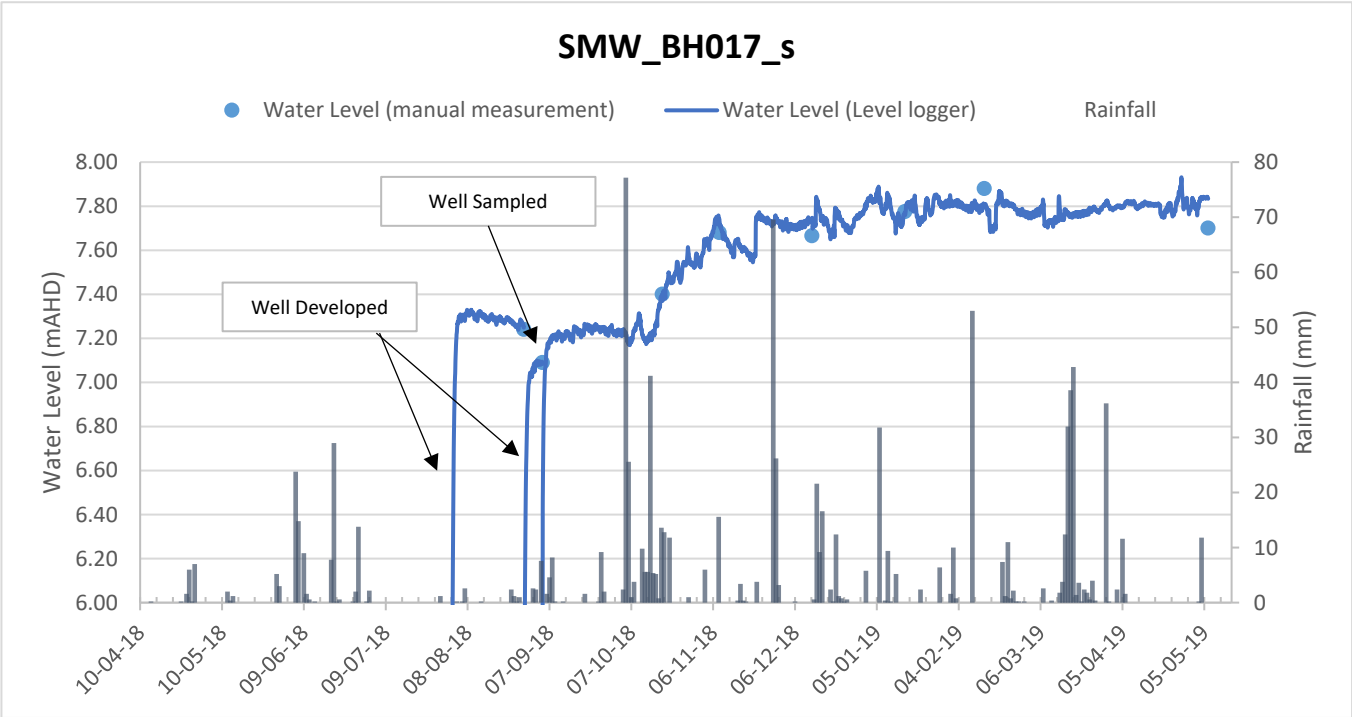

SMW_BH003_s
Water Level (Level logger)
Water Level (manual measurement)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
Well Developed
5.00
4.80
4.60
4.40
4.20
4.00
3.80
3.60
3.40
3.20
3.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

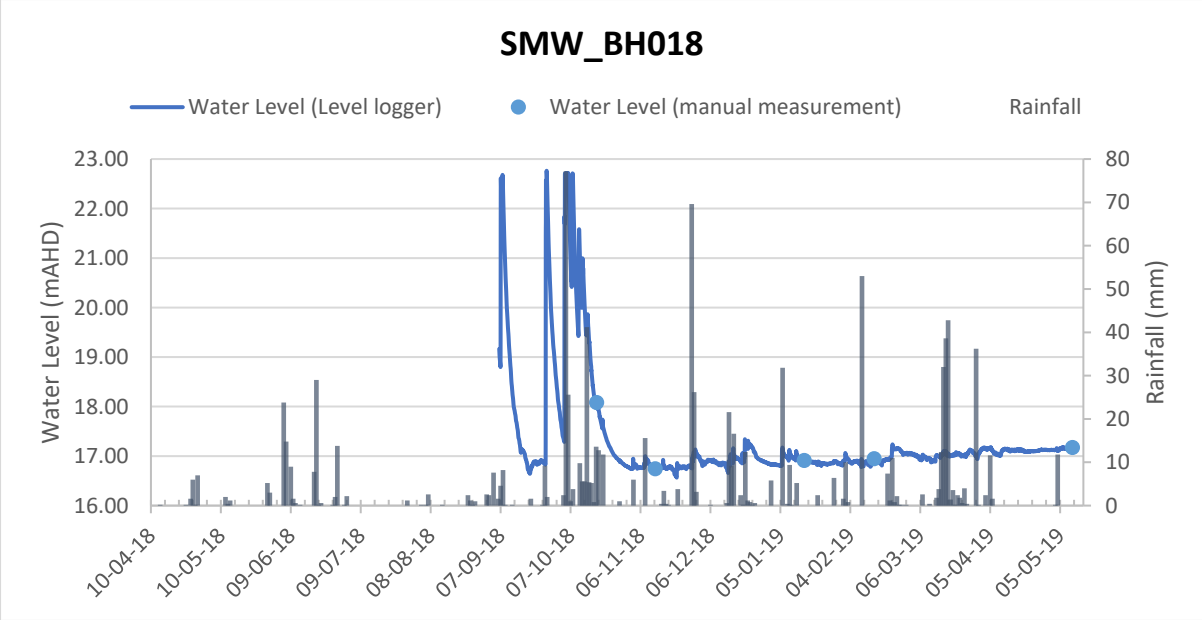

SMW_BH007
Water Level (Level logger)
Water Level (manual measurement)
Rainfall
Water Level (mAHD)
Rainfall (mm)
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

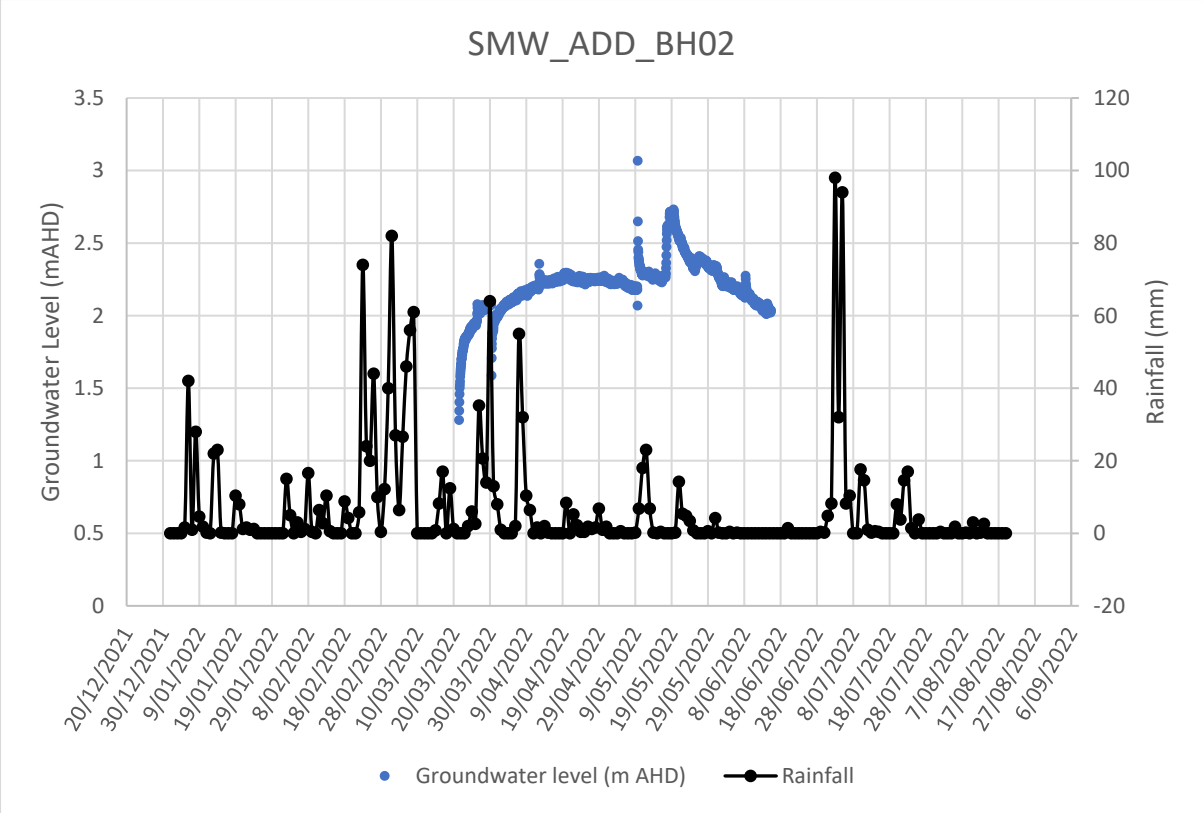

SMW_BH007_s
Water Level (Level logger)
Water Level (manual measurement)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

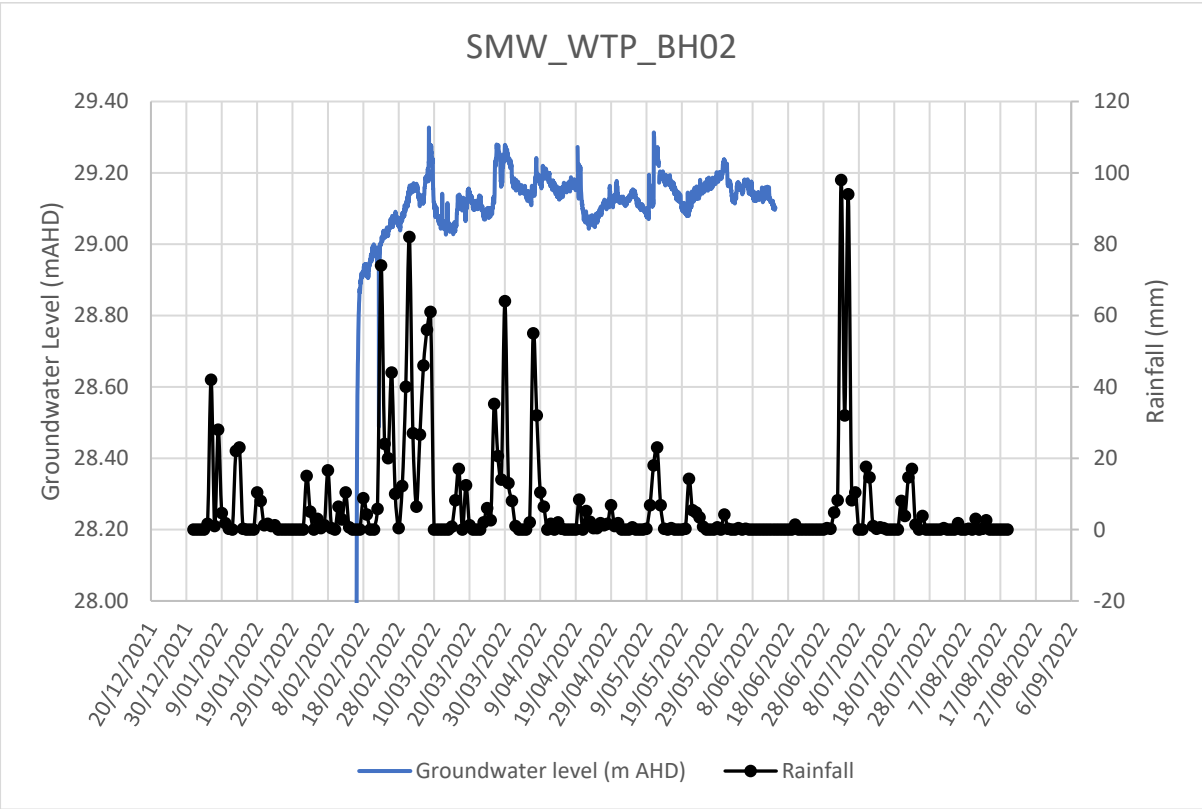

SMW_BH013*
Water Level - VWP 17.89 m AHD
Water Level - VWP -9.91m AHD
Rainfall
Water Level (mAHD)
Rainfall (mm)
VWP stopped
Battery
VWP stopped logging
35
30
25
20
15
10
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

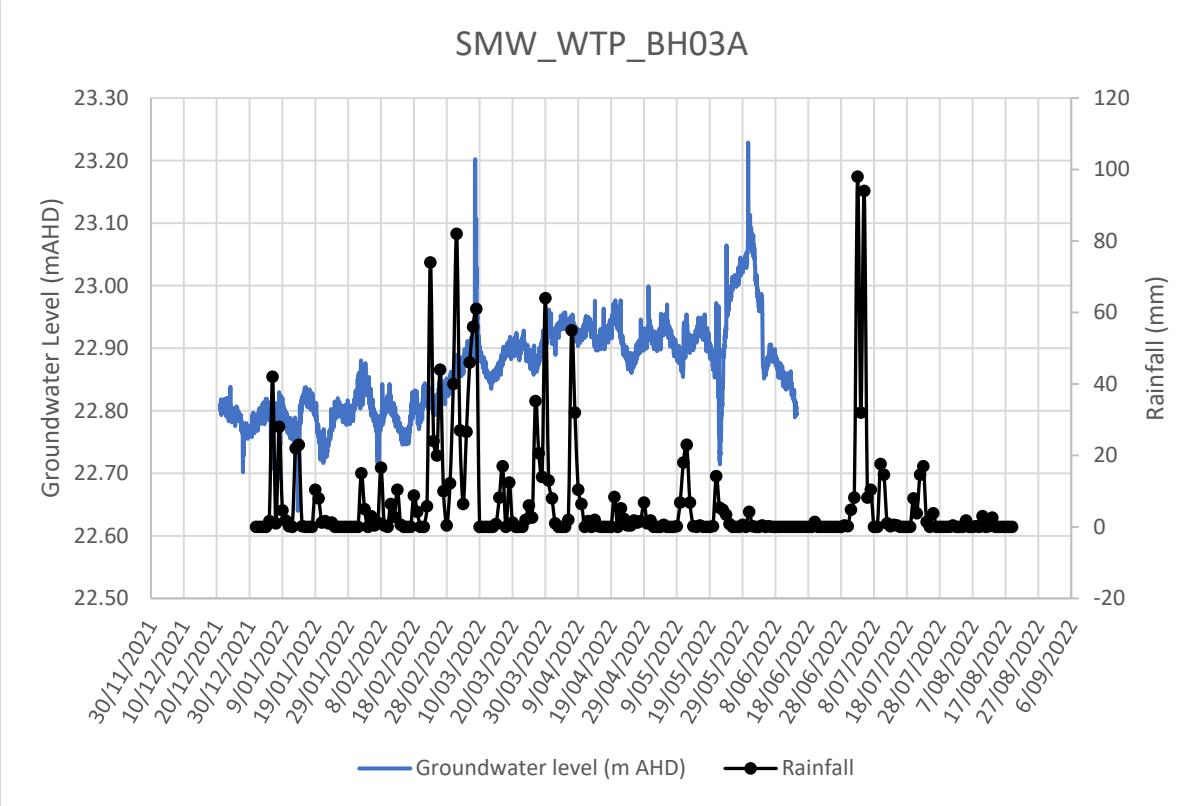

SMW_BH017
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Developed
Well Sampled
Well Sampled
Well Developed
6.00
5.80
5.60
5.40
5.20
5.00
4.80
4.60
4.40
4.20
4.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

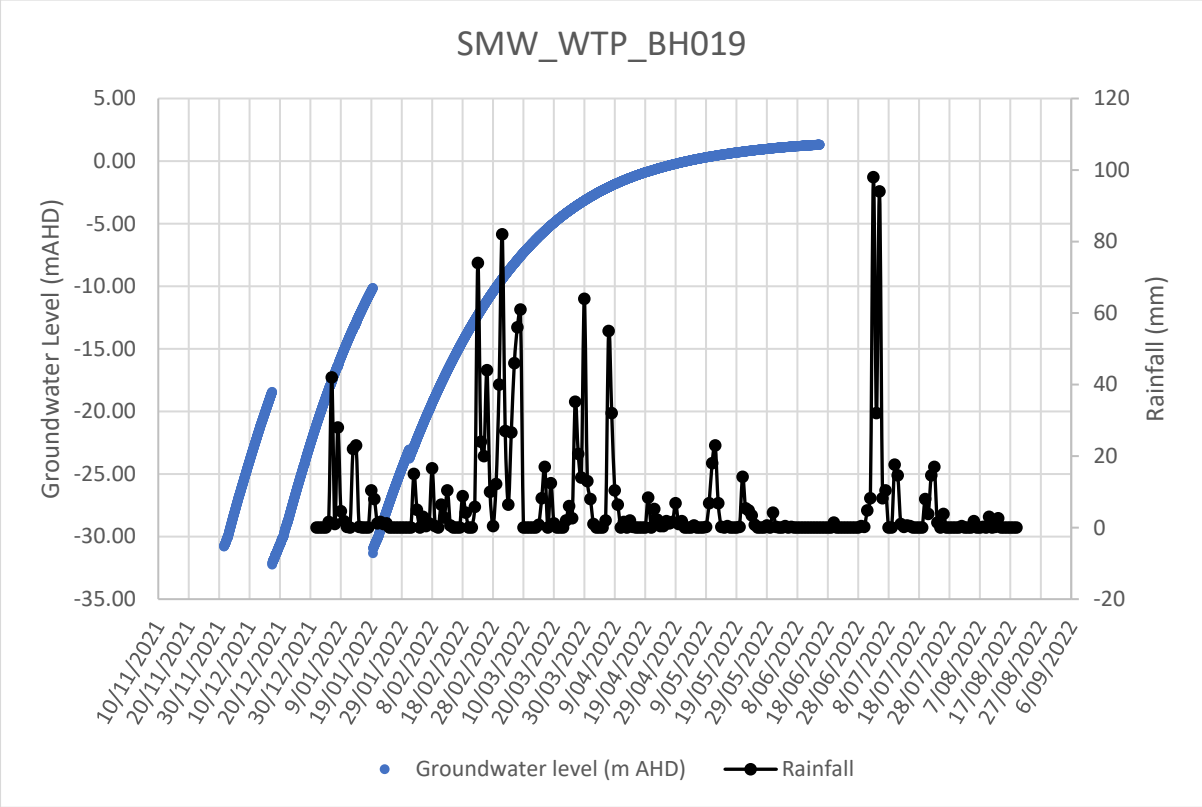

SMW_BH017_s
Water Level (manual measurement)
Water Level (Level logger)
Rainfall
Water Level (mAHD)
Rainfall (mm)
Well Sampled
Well Developed
8.00
7.80
7.60
7.40
7.20
7.00
6.80
6.60
6.40
6.20
6.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

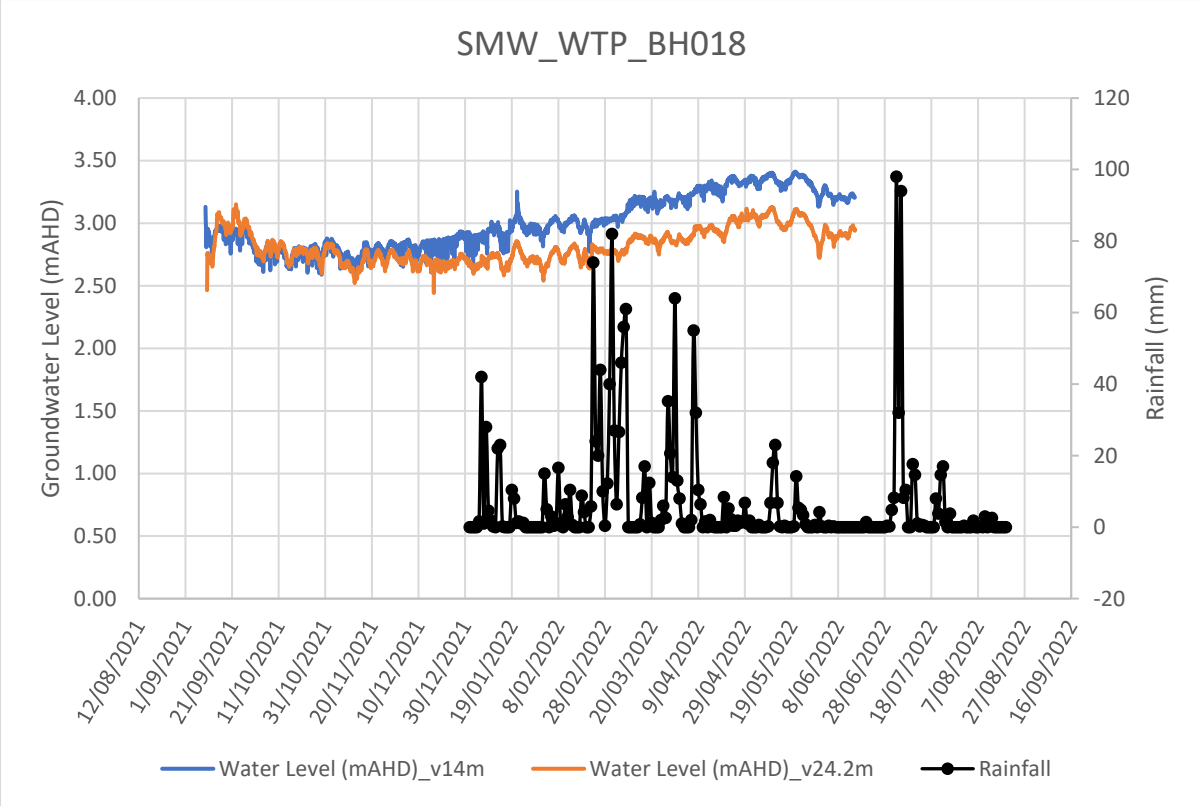

SMW_BH018
Water Level (Level logger)
Water Level (manual measurement)
Rainfall
Water Level (mAHD)
Rainfall (mm)
23.00
22.00
21.00
20.00
19.00
18.00
17.00
16.00
80
70
60
50
40
30
20
10
0
10-04-18
10-05-18
09-06-18
09-07-18
08-08-18
07-09-18
07-10-18
06-11-18
06-12-18
05-01-19
04-02-19
06-03-19
05-04-19
05-05-19

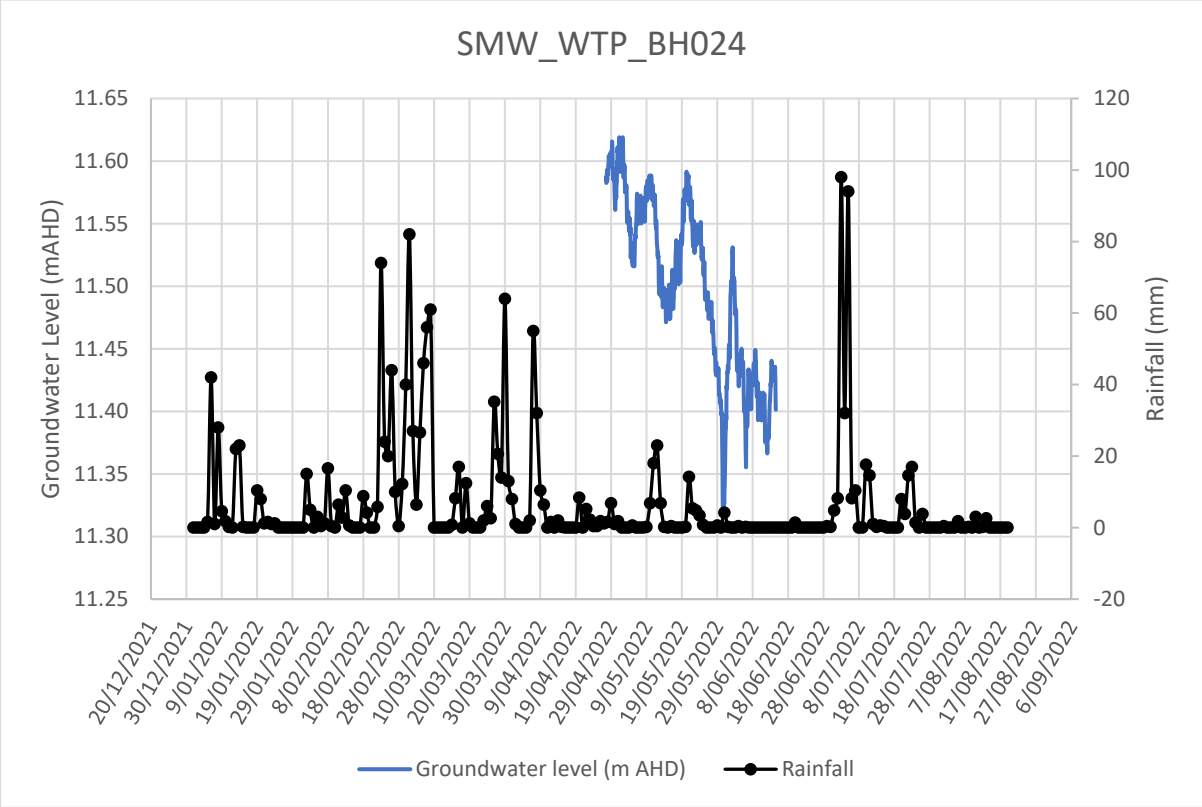

SMW_ADD_BH02
Groundwater Level (mAHD)
Rainfall (mm)
3.5
3
2.5
2
1.5
1
0.5
0
120
100
80
60
40
20
0
-20
20/12/2021
30/12/2021
9/01/2022
19/01/2022
29/01/2022
8/02/2022
18/02/2022
28/02/2022
10/03/2022
20/03/2022
30/03/2022
9/04/2022
19/04/2022
29/04/2022
9/05/2022
19/05/2022
29/05/2022
8/06/2022
18/06/2022
28/06/2022
8/07/2022
18/07/2022
28/07/2022
7/08/2022
17/08/2022
27/08/2022
6/09/2022
Groundwater level (m AHD)
Rainfall


SMW_WTP_BH02
Groundwater Level (mAHD)
Rainfall (mm)
29.40
29.20
29.00
28.80
28.60
28.40
28.20
28.00
120
100
80
60
40
20
0
-20
20/12/2021
30/12/2021
9/01/2022
19/01/2022
29/01/2022
8/02/2022
18/02/2022
28/02/2022
10/03/2022
20/03/2022
30/03/2022
9/04/2022
19/04/2022
29/04/2022
9/05/2022
19/05/2022
29/05/2022
8/06/2022
18/06/2022
28/06/2022
8/07/2022
18/07/2022
28/07/2022
7/08/2022
17/08/2022
27/08/2022
6/09/2022
Groundwater level (m AHD)
Rainfall


SMW_WTP_BH03A
Groundwater Level (mAHD)
Rainfall (mm)
23.30
23.20
23.10
23.00
22.90
22.80
22.70
22.60
22.50
120
100
80
60
40
20
0
-20
30/11/2021
10/12/2021
20/12/2021
30/12/2021
9/01/2022
19/01/2022
29/01/2022
8/02/2022
18/02/2022
28/02/2022
10/03/2022
20/03/2022
30/03/2022
9/04/2022
19/04/2022
29/04/2022
9/05/2022
19/05/2022
29/05/2022
8/06/2022
18/06/2022
28/06/2022
8/07/2022
18/07/2022
28/07/2022
7/08/2022
17/08/2022
27/08/2022
6/09/2022
Groundwater level (m AHD)
Rainfall


SMW_WTP_BH019
Groundwater Level (mAHD)
Rainfall (mm)
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
-35.00
120
100
80
60
40
20
0
-20
10/11/2021
20/11/2021
30/11/2021
10/12/2021
20/12/2021
30/12/2021
9/01/2022
19/01/2022
29/01/2022
8/02/2022
18/02/2022
28/02/2022
10/03/2022
20/03/2022
30/03/2022
9/04/2022
19/04/2022
29/04/2022
9/05/2022
19/05/2022
29/05/2022
8/06/2022
18/06/2022
28/06/2022
8/07/2022
18/07/2022
28/07/2022
7/08/2022
17/08/2022
27/08/2022
6/09/2022
Groundwater level (m AHD)
Rainfall


SMW_WTP_BH018
Groundwater Level (mAHD)
Rainfall (mm)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
120
100
80
60
40
20
0
-20
12/08/2021
1/09/2021
21/09/2021
11/10/2021
31/10/2021
20/11/2021
10/12/2021
30/12/2021
19/01/2022
8/02/2022
28/02/2022
20/03/2022
9/04/2022
29/04/2022
19/05/2022
8/06/2022
28/06/2022
18/07/2022
7/08/2022
27/08/2022
16/09/2022
Water Level (mAHD)_v14m
Water Level (mAHD)_v24.2m
Rainfall


SMW_WTP_BH024
Groundwater Level (mAHD)
Rainfall (mm)
11.65
11.60
11.55
11.50
11.45
11.40
11.35
11.30
11.25
120
100
80
60
40
20
0
-20
20/12/2021
30/12/2021
9/01/2022
19/01/2022
29/01/2022
8/02/2022
18/02/2022
28/02/2022
10/03/2022
20/03/2022
30/03/2022
9/04/2022
19/04/2022
29/04/2022
9/05/2022
19/05/2022
29/05/2022
8/06/2022
18/06/2022
28/06/2022
8/07/2022
18/07/2022
28/07/2022
7/08/2022
17/08/2022
27/08/2022
6/09/2022
Groundwater level (m AHD)
Rainfall

APPENDIX D FIELD DATA SHEETS – GROUNDWATER SAMPLING

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SW TWTP GWMP	Well No: SMW_WTP_BH18	
Job No: SC210108.01		Date: 13/7/22	
Recorded By: Murti		Time: ~~10/85~~ 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

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
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	–	-0.1				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	0.26	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): Bore fell in well.

Discharge water disposal: ☐ Drums ☐ Other: Good condition, clear water, no odour, deep well.

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

SMWWTP_GWMP

Job Name:	~~SBM~~ SMW-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) - [$\pi r(casing)^2 + 0.3 \times (\pi r(annulus)^2 - \pi r(casing)^2)$]
[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
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[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): yellow.

Discharge water disposal: ☐ Drums ☐ Other: Good condition, clear 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

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
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. ~ 3L/min

Discharge water disposal: ☐ Drums ☐ Other: Good condition, yellow, no odour, logger

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_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	1.3L	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): yellow colour / clear, / no odour.

Discharge water disposal: ☐ Drums ☐ Other: Good condition

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					

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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	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
☐ 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					

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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
☐ 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-ENVO39	
Job No:	SC210108.01	Date: 14/7/22	
Recorded By:	Murti & JX	Time: ~~15:00~~ 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	6.35	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
☐ 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

SC210108.01

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) - [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
9:49	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. GOOD, YELLOW-BROWN COLOR → 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_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):	5.35m	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
10:47	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					

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	BH057-S	QA2	QA2-S	R1	
Analysis/ Bottles	10	10	11	10	

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):	1.60 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):	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					

epic 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) - [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
10:02	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 ☐ 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-ENV010			R2	
Analysis/ Bottles	10			10	

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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) - [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
11:52	0.2	6.88	1729	1.4	0.23	2.7				21.9
11:55	0.5	6.87	1712	~~-6~~ 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	-81.5	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 observing~~; logger inside, No odour, Yellowish color

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-ENV009				
Analysis/ Bottles	10				

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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):	0.99m	☐ 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
9:55	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 drawing down, 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
☐ 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_ENV300_S			R3	
Analysis/ Bottles	10			10	

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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	~~0.3~~	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
☐ 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_ENV295				
Analysis/ Bottles	10				

No. 20

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

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
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	11746	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 ☐ 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-ENV083				
Analysis/ Bottles	10				

epic ENVIRONMENTAL

STANDARD GROUNDWATER SAMPLING FIELD SHEET

Job Name:	GWMP	Well No: SMW-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

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
9:21	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,

Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING Yellowish odor water, water drawind down

SAMPLING METHOD ☐ Same as purge method
☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

	Primary	Duplicate	~~Triplicate~~ QA/QC	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

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
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,
Discharge water disposal: ☐ Drums ☐ Other:

WELL SAMPLING Yellowish color, near fence.

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				

LOW FLOW GROUNDWATER SAMPLING FIELD SHEET

Job Name:	SMW WTP - C21	Well No:	ENV 149
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 m bgl
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

☐ Bailer – Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

☐ Same as purge method

☐ Pump – Type: ☐ Submersible ☐ Bladder ☐ Other

SAMPLE DISTRIBUTION:

Sample ID & QC Samples	Primary	Duplicate	Triplicate	Rinsate Blank	Comments
	SMW - ENV149				
Analysis/ Bottles					

epic ENVIRONMENTAL

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):	3.206	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 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 ntu

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:	~~Sun~~ 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):	~~6.400~~ 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, clear, 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:	partly cloudy		

CONSTRUCTION INFORMATION

Well Type:	☒ Monitor ☐ Extraction ☐ Other:	Well Stick Up (m): (above/below ground level)	~ -0.10
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	~~15:36~~	1.7		4.52	6.87	5090	182.3	0.28			3.09		19.5
15.39	~~15:39~~	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	~~15:45~~	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, ~~no od~~ no odour / sheen. unable to stabilise EC, v slow pump output.

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
	~~[illegible]~~ WTP_BH32A.				
Analysis/ Bottles					

32A - found.

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
Height of Standing Water Column (TD-WL, in m):	0.475	Purged dry?	☒ No ☒ Yes, at ~4.99 L

where we put tubing

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					

APPENDIX E LABORATORY TESTING RESULTS – GROUNDWATER QUALITY

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		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
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		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
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		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
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		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
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

CHAIN OF CUSTODY FORM - Client

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ENVIROLAB GROUP
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Darwin Office - Envirolab Services
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08 8967 1201 | darwin@envirolab.com.au

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): ECS 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:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD

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

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		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
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		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	-	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		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	-	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

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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
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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	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.

Environ... Service
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
LAB 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
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:	
Sample Disposal After:	

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	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	~~Dup~~ 6	13/07/2022	W																					X			
7	Trip Blank 01	~~Dup~~ 7	13/07/2022	W																					X			
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												
17																												
18																												
19																												
20																												
				TOTALS																								

Relinquished By:				Received By:		
NAME	srocks (srocks@epicenvironmental.com.au	SIGNATURE	DATE 13-Jul-22	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

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.

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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

[Copyright and Confidential]

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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: Provide as much information about the sample as you can
1	SMW_WTP_BH030		15/07/2022 09:30		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_WTP_BH30_s		15/07/2022 11:00		X	X	X	X	X	X	X	X	X									
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	X	X	X	X	X	X	X	X									
6	TB		15/07/2022											X								
7	TS		15/07/2022											X								
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	
Print Name:	Steve Rocks	Print Name: Victoria Chan	
Date & Time:	15/07/2022 0:00	Date & Time: 15/07/22 1520	
Signature:	SR	Signature:	

Lab Use Only

Job number: 300573	Cooling: Ice / Ice pack / None
Temperature: 6°C	Security seal: Intact / Broken / None
TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

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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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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.

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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:

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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_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

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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
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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	Client Project Name/Number/Site etc (ie report title):	SMW WTP GWMP / SC210108.01
Contact Person:	Steve Rocks		
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: 0414 776 988	*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:	

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
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): EL Sydney	*Lab Use Only*		
Print Name:	Steve Rocks	Print Name:	Job number: 200679	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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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:	Steve Rocks		
Project Mgr:	David Harris	PO No. (if applicable):	
Sampler:	Joy and Muti	Envirolab Quote No. :	
Address:		Date results required: Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day	
Phone:	Mob: 0414776 988	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:	

Sample Information					Tests Required															Comments
Envirolab Sample ID (Lab use only)	Client Sample ID or Information	Depth	Date Sampled	Type of Sample																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:	Muti	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		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	-	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.

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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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ABN 37 112 535 645
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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 1546

CHAIN OF CUSTODY FORM - Client

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Company:	Epic Environmental	Client Project Name/Number/Site etc (ie report title):	SMW WTP GWMP / SC210108.01
Contact Person:	Steve Rocks	PO No. (if applicable):	
Project Mgr:	David Harris	Envirolab Quote No. :	
Sampler:	MP, JX	Date results required:	Or choose: ☑ Standard ☐ Same Day ☐ 1 day ☐ 2 day ☐ 3 day
Address:		*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*	
Phone:	Mob: 0414 776 988	Additional report format:	☑ Esdat ☐ Equis
Email Results to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au	Lab Comments:	
Email Invoice to:	srocks@epicenvironmental.com.au dharris@epicenvironmental.com.au		

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							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								Metals to test: Al, As, Cd, Cr, Cu, Hg, Pb, Ni, Zn, Mn, Fe
2	SMW_ENV295		19/072022 14:00	Water	X	X	X	X	X	X	X	X	X								
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*

				Lab Use Only	
Relinquished by (Company): Epic		Received by (Company):	ELS SYD	Job number: 300822	Cooling: Ice / Ice pack / None
Print Name:	Joy Jiell XIE	Print Name:	Katy Wayne	Temperature: 12°C	Security seal: Intact / Broken / None
Date & Time:	19/07/2022 16:00	Date & Time:	19/7/22 1430	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	
Signature:	JX	Signature:			

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 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		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	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		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
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		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
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.

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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:

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_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
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:	Murti Purohit
Project Mgr:	David Harris
Sampler:	MP, JX
Address:	
Phone:	Mob: 0498516850
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_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

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
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www.envirolab.com.au

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 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			
extra 8	8	WM_RM01		10/08/2022	Water												x						
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 GBartlett SIGNATURE [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
Project/Site:	Westmead Station
Sampled By:	NATALIE CHANDRA
Phone / Email:	nchandra@epicenvironmental.com.au
Results to:	tobrien@epicenvironmental.com.au
Page	1 of 1
Number of Eskies:	2 eskies

Lab:	
Lab Quote No:	
Lab Batch No:	
Date Results Required:	STANDARD
Sample Disposal After:	

CONTAINER TYPE & PRESERVATIVE

LAB ID	Sample ID	Depth (m)	Date/Time	Matrix	Glass Jar									ON HOLD	S26	PFAS	VOCs					
1	WM_QC02			Water											X	X	X					
				TOTALS										0	1	1	1	0	0	0	0	0

Relinquished By:

NAME	NATALIE CHANDRA	SIGNATURE	NC	DATE	11/08/2022

Received By:

NAME	SIGNATURE	DATE

Custody Seals Intact	Y	N
Samples Received Chilled	Y	N
Method of Shipment		

NOTES: Analysis to come via email.

Epic Environmental Pty Ltd ABN 54 169 579 275
Level 6, 193 North Quay, Brisbane QLD 4000

web www.epicenvironmental.com.au
email labs@epicenvironmental.com.au

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customerservice@envirolab.com.au
www.envirolab.com.au

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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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
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:	4S8941341	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	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:				Received By: Christine Gossip			
NAME	Tyler Spang (tspang@epicenvironmental.c	SIGNATURE	DATE 13-Jul-22	NAME	SIGNATURE	DATE 13/07/22 1100	

Custody Seals Intact	Y	N
Samples Received Chilled	Y	N
Method of Shipment	8°C	

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

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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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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
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:	4S8941341	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	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:				Received By: Christine Gossip			
NAME	Tyler Spang (tspang@epicenvironmental.c	SIGNATURE	DATE 13-Jul-22	NAME	SIGNATURE	DATE 13/07/22 1100	

Custody Seals Intact	Y	N
Samples Received Chilled	Y	N
Method of Shipment	8°C	

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

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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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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
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:	4S8941341	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	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:				Received By: Christine Gossip			
NAME	Tyler Spang (tspang@epicenvironmental.c	SIGNATURE	DATE 13-Jul-22	NAME	SIGNATURE	DATE 13/07/22 1100	

Custody Seals Intact	Y	N
Samples Received Chilled	Y	N
Method of Shipment	8°C	

NOTES:

Email ###
cc
cc epicenvironmental@esdat.com.au
cc labs@epicenvironmental.com.au

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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		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
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		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
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		

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)			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	----	----
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		Recovery Limits (%)	
Compound	CAS Number	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**	Page	: 1 of 22
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% - 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 sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report 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	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
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	Laboratory Duplicate (DUP) Report 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	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
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	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
				Laboratory Duplicate (DUP) Report					
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	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
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 sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 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	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	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: 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: 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: 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: 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**

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: 4464512)							
ES2225027-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
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**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	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

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 / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Due for extraction	Days overdue	Analysis: 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 / Method	Count: QC	Regular	Rate (%): Actual	Expected	Quality Control Specification
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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Due for extraction	Evaluation	Analysis: 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			Analysis		
		Date extracted	Due for extraction	Evaluation	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	×

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
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			Analysis		
		Date extracted	Due for extraction	Evaluation	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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		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.

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	Lab:	Envirolab
Project/Site:	SMW WTP GWMP	Lab Quote No:	
Project Manager:	Steve Rocks	Lab Batch No:	
Sampled By:	SR, MP, JX	Turnaround time:	STANDARD TURNAROUND.
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: 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 - 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	QA1_S		13/07/2022	W											X	X	X	X	X	X	X	X	X	X				
2	Trip Spike 01		13/07/2022	W																					X			
3	Trip Blank 01		13/07/2022	W																					X			
4																												
5																												
6																												
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				TOTALS																								

ANALYSIS REQUIRED

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: [signature] 15/7/22 1430
NAME SIGNATURE DATE

Custody Seals Intact Y N
Samples Received Chilled Y N
Method of Shipment 1-2

NOTES: * ULTRA-TRACE EXTENDED SUITE METALS & TRACE NUTRIENTS PLEASE
** ESDAT RESULTS (srocks@epicenvironmental.com.au & dharris@epicenvironmental.com.au

Email ###

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

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

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: 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 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																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												
17																												
18																												
19																												
20																												
				TOTALS				2	4	2		1	1															

Relinquished By:		Steve Rocks			Received By:			Custody Seals Intact	Y N
								Samples Received Chilled	Y N
NAME	srocks (srocks@epicenvironmental.com.au)	SIGNATURE	DATE	15-Jul-22	NAME	SIGNATURE	DATE	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

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		

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		Recovery Limits (%)	
Compound	CAS Number	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% - 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 sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report 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 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: 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	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
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	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
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 sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 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	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	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	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	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	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	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**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	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**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%) 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 / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	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 / Method	Count: QC	Count: Regular	Rate (%): Actual	Rate (%): Expected	Quality Control Specification
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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
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			Analysis		
		Date extracted	Due for extraction	Evaluation	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			Analysis		
		Date extracted	Due for extraction	Evaluation	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			Analysis		
		Date extracted	Due for extraction	Evaluation	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 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 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.

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

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.**
- **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).**
- 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

HT

Chain of Custody Record

epic ENVIRONMENTAL

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: 250-250ml 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 suite - UltraTrace: Al, As III, As V, Cd, Cr III,	Nutrients (Trace)	TRH + BTEXN	PAH	OCP / OPP	Herbicides	VOC / SVOC	PFAS	BTEXN			HOLD
1	QA3_S		22/07/2022	W				2	1	3	2	1	2		X	X	X	X	X	X	X	X	X	X				
2	Trip Spike		22/07/2022	W																					X			
3	Trip Blank		22/07/2022	W																					X			
4																												
5																												
6																												
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19																												
20																												
				TOTALS				2	1	3		1	2															

ANALYSIS REQUIRED

Environmental Division
Sydney
Work Order Reference
ES2226073

Telephone : + 61-2-8784 8555

Relinquished By:	Murti Purohit			Received By: JUSTIN	
NAME	srocks (srocks@epicenvironmental.com.au)	SIGNATURE	DATE 22-Jul-22	NAME ALS	SIGNATURE DATE 22/7/22 8.40pm

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

CONTACT US

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